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Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 1. $1.00 per Annum.

Rutland, Vermont, January 1916.

15959

ORIGINAL PAPER

President's Address.

Wm. Warren Townsend, M.D., F.A.C.S.

Delivered at the Annual Meeting of the Vermont State Medical Society, Oct. 15, 1915

Engaged, as we are, in the pursuit of a common goal, we are ever confronted by the past record of achievement of the Vermont State Medical Society, its present accomplishments and the question of what it is to do to raise the status of the profession's personnel in the State. These considerations have recurred to me during my tenure of office as your President, the honorable post to which you, gentlemen, elected me last year.

It is inspiring to read of the efforts of those who have gone before, blazing the way for their successors with fine disregard of personal emolument or preferment; the pitiful makeshifts the early practitioners were obliged to employ in order to secure the means of interchange of professional experience and views; the indomitable perseverance with which they met the obstacles of isolation, lack of libraries and literature, the limitations of medical and surgical training and the ever-present popular mistrust.

What compels our admiration to-day is that catholicity of professional spirit which made the early State and County societies possible. We were told something of the trials and tribulations of the State and County societies in their incubation period by Dr. Stone in his able address in 1913. Throughout the storm and stress period that followed there was always discernible even in their inevitable differences, a common jealousy for the highest possible standards for the profession; these we have inherited; these it is our plain duty as well as our loving task to preserve. How best may we do this?

We have been enlightened variously as to the motives moving certain members to relinquish membership in the constituent County Societies; from some of the reasons assigned it may safely be inferred that mere numbers are not the only desideratum.

The work of the officials charged with the duty of investigating the decrease in membership and of securing an increase has been well done and is deserving of commendation; it must be borne in mind, however, that there is danger of increasing membership without *all* the necessary compensating advantages. It must be clear that the present qualifications for membership are far from being stringent; I have before now given my views as to the qualifications best calculated to render membership in a Medical Society a coveted prize; one to be sought after as a valued recognition of a fixed status rather than the meretricious article resulting from an energetic campaign for members without regard for the quality of material enrolled. I have noted that sooner or later such an element becomes "dead wood," and contributes slightly, if at all, to the advancement of medical science or to the personnel of its ranks. I have observed that the mere possession of a membership has often deluded its holder into the belief that his professional future is

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assured; that because he is able to write, "Member of the —— County Medical Society, Member of the —— State Medical Society, Member of the American Medical Association" after his name, he becomes a prominent member of his profession. The type is familiar; he will deign to attend the meetings of his societies if geographical proximity or convenience make it possible; he usually wears an emblem of membership on the lapel of his coat and struts up and down hotel lobbies or the board walk with the workers of his profession as who should say, "See to what dizzy heights my membership has elevated me." Intoxicated with his environment, he mentally resolves to return home to put into practice his new conceptions of dignity and to live a professional life other than that of the lazy routinist. How often does he make good and why doesn't he? Personally, I am forced to the conclusion, due to a reasonable familiarity with typical conditions, that the answer to this question is found in the lack of stimulation at home. The so-called leaders in our profession, as in others, gain this distinction in large centers where competition is keen and the fittest survive as only the fittest may in such circumstances. We hear, in season and out of season, the tiresome iteration of the lazy man's excuse—that it is only in large centers with ample clinical material at hand that really constructive scientific work may be done. I challenge this statement and assert that while we in the country do not meet habitually with the interesting and obscure conditions familiar to those in attendance on the great Metropolitan clinics, we do encounter them in isolated groups of ones, twos and threes; at all events an exhaustively scientific study of these cases as they occur will advance the car of progress that much farther. It is not acreage that makes a good farm but the way it is tilled.

If any concrete evidence were needed to dispel the widely lamented lack of clinical material in Vermont, it is only necessary to call attention to the work done in the Post-Graduate course carried on by a number of Rutland physicians during the Winter 1914-1915. During twenty-two consecutive weeks, prominent leaders in their respective fields were brought from without the State to conduct clinics. In none of the clinics was material wanting; in fact, the instructors often found superabundant material and more than could be utilized in the time allotted. Also at the public cancer meetings conducted by the Society and so ably directed by your Secretary, there was no dearth of material. So, too, the records of the clinical department of the Medical College of the University of Vermont will show ample material; if no other proof were available sufficient is at hand in the College's maintenance of its "Class A" rating after a close inspection of its clinical advantages. Cases continue to multiply of medical men doing epoch-making work in sparsely settled communities. These men somehow find sufficient material to enable them to pursue their chosen branches. What they have received in large measure is stimulation—which is peculiarly contagious; this added to a natural enthusiasm for their work shows the enviable results that attract their Metropolitan brethren no less than their local confreres.

It would seem that the medical profession in Vermont could afford to support a published medium of matters of interest to the profession. If it is not at present practicable to organize and put under way a new medical journal locally, may it not be possible to undertake something, less ambitious perhaps, but still useful to the profession in the way

of bulletins or mimeographic transcripts edited and circulated at small cost to the members of the Society? These to contain reports of interesting experiences in the daily practice of the contributers, who, by this means, would acquire a facility for the written word accurately expressive of subject matter requiring the nicest discrimination in expression. This plan should afford no greater opportunity for personal advertisement than the most ethically conducted journal. It would be a rather ludicrous state of affairs that would demand a denial to members of the profession the benefit of a fellow member's experience because of the danger of personal advertising.

The present system of annual meetings of the Society at which papers are read by the local members of the profession and where invited guests of standing give us papers or clinics, is one well calculated to start stimulation; we all feel the stimulus; these October days do their part and urge us forward through the very joy of life but the relapse comes too soon; we are accustomed to fall back into the old rut and look forward with a deadening sort of apathy to the next meeting of the County Society. This occasion, we are informed, will be signalized by the reading of a paper on "Typhoid Fever" by Doctor So-and-So, or by another paper on "Puerperal Eclampsia." Twenty years' acquaintance with the Doctors So-and-So induce the belief that their respective experiences in Typhoid Fever and Puerperal Eclampsia will not exactly be in the nature of revelations, but from past performances, one expects the papers will show "booky" texts, and one is rarely disappointed. If we attend, we do so in a spirit of lagging interest, unwilling to yield even the dubious credit to Doctors So-and-So for having given verbatim transcripts from either standard works or special articles, all the while conscious of personal dereliction in not having, ourselves, contributed our mite for years. With what different emotions would we have read on the program announcements that the Doctors So-and-So would report original work in the treatment of Typhoid Fever or that an original method had been adopted in the treatment of Puerperal Eclampsia. To the frequently heard piece of cynicism that we do not practice anything original, I reply flatly that I know this to be untrue. My experience with the medical men of Vermont, whom I meet daily in consultation is that they are not only original but frequently much more so than their brethren in the larger cities. The modest practitioner rarely proclaims his originality; whether through diffidence or because speaking of himself is distasteful, he often withholds his ideas when he should consider himself professionally bound to make them known for the advancement of the science.

My conviction is that the prime function of the State Society should be to stimulate and to arouse the dormant material now in the State so that Vermont may hail her Marion Sims, her Jenners, Kelleys, Ochsners, Murphys and Mayos. To this end, as I have before indicated, I believe that admission to the Societies should be won and not acquired by the easy route of paying dues and signing the roster. Let every new practitioner locating in a given place in the County become known professionally, not merely socially, to every other physician in the County; after giving satisfactory evidence to the censors that he is qualified let him be elected to a partial or probationary membership; completing this period satisfactorily, after demonstrating his productiveness and his value as an asset, let him be elected to either a full member-

ship in the State Society or County Society, in which latter case, election would automatically carry membership in the State Society.

I have served as censor of our County Society and as I look back I can see what a poor one I was. When confronted with the name of an applicant or candidate I simply signed my name as endorser, almost as of course. I knew of at least one man whose candidacy I endorsed who was a disgrace to the profession and had no redeeming qualifications. I gave him my endorsement because it was the customary thing to do; not because I had looked him up or that he had proven himself competent and worthy at the time of election. To be sure, up to this time he was not a criminal but he became one after his election. Had a probationary membership been in *vogue* such a man could never have become a full member.

An innovation that might speedily show its worth is for each County Society to select a certain fixed definite place for its scientific work where it could meet with visiting members of other County Societies; clinics could be arranged; cases exhibited and laboratory tests shown in addition to the customary papers; then as a further attractive feature, a social committee could arrange for a dinner or collation.

In a recent conversation with a former Secretary of a County Society both himself and his wife detailed to me some of the vicissitudes encountered in arranging programs and the unwillingness of members to contribute. Forfeiture of membership does not seem too drastic a penalty to impose in cases of refusal to contribute, except for good cause shown. There is much in becoming habituated to open discussion: instances are not wanting where the habit has become so strong with certain members that it is hard to keep them down, but the main point is that they have something instructive to say as good students and scientific workers.

Perhaps I may be pardoned if I advert to a matter that in some way seems to have escaped with little or no attention. It is well known by all of us that no inconsiderable space is given medical cases in the daily and weekly papers and lay periodicals, sometimes with something almost approximating accuracy and sympathy; at other times with a cheerful disregard for everything but space. Doubtless a number of members of the State Society have suffered from unintelligent and garbled reports in the State press of cases with which their names have been connected. I believe that I shall not be misunderstood when I earnestly urge as an incidental function of the County and State Societies the adoption of stricter and saner regulations concerning the publication in lay newspapers and periodicals of newly discovered or established facts in medical progress. We should see to it by the appointment of a Press Committee, that undue publicity and vulgar self-advertisement should be made impossible on the one hand and yet contrive to furnish on the other accurate and tested information leading to a sound and wholesome understanding among the people at large of things they ought to know; in other words, to hit upon the precise principle in ethics that will operate to prevent unprofessional self-laudation as pioneers in new fields and at the same time check in a salutary way the reactionary tendency toward a suppression of everything new in medicine or surgery, the knowledge of which the public is entitled to as of right. Is it not possible that a more precise and still workable principle may be evolved, whereby recognition shall be given by the profession to a temperate, judicious dissemination of accurate, clearly expressed

information among the laity, to the double purpose of spreading truth and compelling a more sympathetic and appreciative attitude toward the profession as a whole? It is undeniable that such recognition would greatly enhance a much needed popular appreciation and understanding of physicians and surgeons as a class. There should be no difficulty in dealing with quackery or charlatanism as each case arises, but the fact that such abuses are sporadically possible should not put a padlock on the dissemination of all accurate medical intelligence. In this connection, it might be well too, not to assume that because some poorly paid and irresponsible reporter has erred or blundered here and there that *all* lay publications are without their careful, conscientious men, striving in their way, equally with the medical men to give truth its place.

I want to feel that I have not spoken vainly regarding the reforms suggested by me as to the admission of members in the societies along the lines submitted in this and my previous paper to the Society; this together with the plan for scientific work in the County Societies under the direction and guidance of a wise and skillful committee lie very near to my heart. I believe that some such consummation will ultimately, in the time of your sons and mine, place the Vermont Medical Society in the fore-front where it belongs as of right in scientific achievement. I would like to think that I will have converted at least one member to my way of thinking and that he will be sufficiently enthusiastic to prevail upon the House of Delegates to examine into this reform program as outlined and report, through a committee, at the next annual meeting; I may say, with due modesty of course, that personally I am not averse to serving on such a committee.

Seriously, however, to recapitulate, I believe that by: (1) regulating admission to County Societies, as indicated, (2) directing their scientific work by an educational course under a competent committee, and (3) furnishing a journal or mimeographed bulletin for the publication and interchange of case reports, professional correspondence, contributions and the like, the medical profession in the State of Vermont can be raised to a high standard of efficiency and that to be a member of the Vermont State Medical Society will be an honor second to none that can come to our sons in their professional life.

DISCUSSION BY DR. G. H. GORHAM OF DR. TOWNSEND'S ADDRESS

I think this is a very able address. He did not get it out of a book; it is original. I think we all are fully prepared to endorse nearly all he said. I think you all know that there are members who are of no practical use except to pay dues, but for any professional work they have done, or are doing, for the benefit of medicine, their value is nil. I am not sure but that the President is right in advocating a period of probation to test candidates out and decide if they should become members. That will carry weight. I presume you remember Dr. McCormick of Kentucky coming through Vermont speaking, and that he touched upon something of what our president has now said of the value of having medical societies get together. I think the Rutland men are to be congratulated on having carried on such a work there in the last two years. I know it has been of value, not only in that part of the state, but especially for Rutland. I presume that the same thing could be done here in Burlington in similar units — a few men interested in general lines gathered together. Such a group of men would be a help in our daily work, and I think it is our duty to see it is done in all our counties. I have thought sometimes that it was of more benefit to the man who wrote than it was for the members as a whole. He was obliged to become thoroughly posted on the subject. Now, if this could be done, I believe not only the county society, but the State society would be benefited and helped thereby. With regard to publication, I think that it would be well to have a synopsis of some of the leading papers read at the county society or a group of meetings. It would be of special

interest to the members of the State Society to have them published. It would not entail a great expense and it would be of great benefit to all members of the society. With regard to the laity publishing medical knowledge, I have not seen much of it in our locality, but I know there are members outside that are ready and willing and anxious to advertise themselves. So that it might be well to have a committee in the different societies to take that matter in charge, so that they would keep a lookout and know when there was anything of the kind published in the public press. I hope sincerely that the members of our State Society will adopt President Townsend's suggestion and get together and have these groups of meetings. I would say in regard to the great value of the work the State Board of Health has done in Poliomyelitis and the treatment of cancer that it would be well to continue along those lines and thereby be a benefit to one and all.

MINUTES OF THE ONE HUNDRED AND SECOND ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY, HELD AT BURLINGTON, OCTOBER 14-15, 1915

THURSDAY, OCTOBER 14TH

Forenoon Session

The meeting was called to order by President William Warren Townsend of Rutland, at the Medical College at 10:30.

Prayer by the Rev. C. C. Adams:

"Our Heavenly Father, we thank Thee for our creation and preservation. We pray for Thy blessing to rest upon all who battle with disease, attend the sick and labor to reduce the ills of men. We pray that Thy blessing may especially rest upon these servants of Thine, as they gather here this morning. Guide them in their deliberations. Give them sympathy with their patients day by day. And hasten the day, O Lord, when Thy kingdom shall come, when there shall be no more sickness, or sorrow, or anguish; when Thy kingdom shall be realized on earth as it is in heaven. Through Jesus Christ, our Lord. Amen."

The President—" I have been advised that owing to sickness in the family of the mayor he will be unable to be present with us this morning and Doctor Jenne will give us 'the glad hand' instead of the mayor."

Dr. J. N. Jenne—

"Mr. President and gentlemen, I am not the Mayor of the town. However, I feel very proud of being asked to substitute for him in his unavoidable absence this morning. In that capacity and with that understanding I am very glad to offer a few words of welcome to the members of the Vermont State Medical Society and its guests.

"As I look upon this assembly I am impressed with the thought that this body of men scarcely needs to be assured of a welcome to Burlington in as much as I see many who I know are "to the manner born"; others have acquired a right to a welcome here by reason of a former residence. Even within these walls many return to the bosom of their Alma Mater. To nearly all their return is to re-establish associations that have existed for many years, perhaps the rekindling of old friendships with old associations, with colleagues, with the college or hospital. With these circumstances in mind I feel abundant warrant in bidding you a very hearty welcome to our midst and expressing the hope that you will take full advantage of our homes, of our comradeship, of the college and the hospital.

"There is a good old homely phrase that I have no authority for saying is of New England origin, but I like to think it originated in New England, if not in Vermont; we hear it so commonly that it has lost something of its significance,

but it means very much when we carefully analyze it. In this phrase the New Englander is in the habit of bidding her guest welcome and 'to make themselves at home.' In these words I bid you make yourselves at home in our midst."

The records having been printed in the transactions, it was voted to pass over that article.

The President then called for the report of the Committee of Arrangements.

Dr. Sears.—"The report of the Committee of Arrangements consists simply of the program. I wish to call your attention to one or two matters. A reception and entertainment for the ladies will be given this afternoon at three o'clock at the Klifa Club, to which the ladies are very cordially invited. This evening at 7:30 Gen. Wm. C. Gorgas, Surgeon General of the United States Army, will give a lecture in the High School Hall on Sanitation of the Canal Zone and Construction of the Canal at Panama, which we shall expect you all to attend. Immediately after the lecture we shall have the annual banquet of the Society. I emphasize "immediately" because we wish to start immediately—at nine o'clock. The Ethan Allen and Algonquin clubs have extended a cordial invitation to the members of this Society and their guests to use their rooms during the meeting.

"The clinics to-morrow will be at the hospital, and I think the Society will find them an extremely good feature. We have endeavored to get sufficient material for these clinics, and I think they will be very satisfactory."

The report of the Secretary is printed and in the hands of the members so the reading of same was omitted.

Before reading the report of the Treasurer Dr. Dalton said: "I am sorry to say that the report cannot be accepted as printed because of one or two printer's errors. I will, however, read it as it was originally.

I think the condition of the finances of the society should be appreciated by every member. During the year there has been a considerable amount of discussion about various phases of the work of this Society, and consequently I have adopted the plan of separating expenditures so that they can be readily understood by everybody, and I hope that this report is a complete resume of the financial condition of the Society and will show just how we stand."

The auditor was absent and rendered no report.

Dr. Stevenson made a motion, which was seconded, that the report of the Treasurer be accepted as read by him.

Dr. C. H. Beecher.—"I do not think it ought to be accepted as printed."

The motion was withdrawn.

Dr. Hamilton.—"The question of the Medico-Legal Fund is one that has been discussed throughout the State, and I think the whole matter ought to be put on some substantial basis, and if there is no objection I move that this report be referred to the House of Delegates."

A Member.—"Has this ever been discussed?"

Dr. Hamilton.—"We have no authority."

Dr. Jenne.—"The motion is entirely in order. If it were merely a technical matter it would be different. The whole substance of the matter is this: The members of this Society have been assessed a certain sum for a specific purpose only, and the Medico-Legal Committee have investigated the question and this seems to have developed the fact that whether we have provided that this fund should be set aside specifically or not it is set apart, and it would be very wrong for us to appropriate it for

any other purpose for the few hours that may elapse between now and the action of the House of Delegates.

"The matter will be brought to the attention of the House of Delegates and the committee will recommend that it be set apart, and I think the reason will be perfectly obvious. As Dr. Dalton is aware, actions for malpractice do not outlaw until a lapse of six years. Certain members of our Society have lapsed their membership. But they paid for defence, and the cause of action arose during the time when they were members in good standing. This Society is bound to defend their estates or interests until the end of six years. If we spend the money, then you and I and others would be subjected to assessment later on for purposes for which we once have paid. I move a serious objection to the non-acceptance."

Dr. Beecher.—"Again I will have to call attention to the fact that there is no Medico-Legal Fund. It has never been definitely voted by the House of Delegates, and there is no such record in the Minutes of the Society."

On a vote the matter was referred to the House of Delegates.

The President.—Is there any report from Councillors?

There was no response.

The reports of the Executive and Publication Committees were read by Dr. Hamilton.

The report of the Legislative Committee was read by Dr. F. W. Sears.

The report of the Necrology Committee was ordered published in the "Transactions" of the Society on motion.

The Committee on Medical Education presented no report.

In presenting the Report of the Medico-Legal Committee Dr. J. N. Jenne said: "There is only one case in which there is any probability of action arising. There is one case still remaining unadjusted, and it seems that this will be gotten rid of without going into court and with very little addition to the costs, if any. The Committee recommends to the House of Delegates that the fund, or a sum of money equal to the accumulation, be segregated from other funds, to which two dollars per annum from each member's dues be added, and placed in the bank and allowed to accumulate to five thousand dollars. It is thought by your committee that it will then be entirely safe to lower the annual dues and that the income from that sum will be adequate to take care of cases that may arise, and we can reserve the fund for a day in which we are bound to have some case arise which will perhaps entirely wipe out our surplus. At the present time we have never had to defend a case in court, and from our experience it is obvious that the effect of the defence of a member of this body at the very outset has exercised a very salutary influence."

In presenting the report of the Committee on Health and Public Instruction, Dr. E. H. Ross said: "The committee have no special report to make."

The President.—"From my viewpoint one of the pleasantest things in connection with our association of societies is the interchange of fellowship from one society to another. Those of you who are familiar with the views regarding membership in medical societies, State or National, will appreciate the fact when I say to you this morning that we have with us a member from what I consider a great medical society, namely the Massachusetts Medical Society, which requires that a man must be known before he is admitted to membership. A man must pass a satisfactory scientific examination for membership. I believe that to be a model example for all state and county societies. I now have the pleasure of introducing

to you Dr. F. P. Emerson of Boston."

Dr. Francis P. Emerson.—"Mr. Chairman and members of the Society, it is with great pleasure that I bring you greetings from the Massachusetts Medical Society, and also from its president, Dr. Withington, a personal message, trusting that the pleasant relations which have existed between the two societies in the past may continue in the future, and that you may have a very prosperous year." (Applause.)

The President.—"Massachusetts was good enough to send two delegates. I now have the pleasure of introducing Dr. John S. Hitchcock."

Dr. Hitchcock.—"My colleague has just told you how glad we are to come to Vermont, and how much we appreciate the friendship which exists between the two States in medical work, and I do not propose to bore you by a long talk. We are both of us glad to be with you and to bring a good word from our Society to your Society." (Applause.)

The President.—"We have been notified that there would be delegates from the Connecticut Medical Society and from the New Hampshire Medical Society. Are there any gentlemen here from New Hampshire? Or from Connecticut?"

Dr. D. D. Eastman.—"I represent the New Hampshire Medical Society, and I bring you greetings from our society. I think I have been delegated for five different years, and I certainly have enjoyed your papers and have been very much interested in your meetings, and was very glad to be appointed to attend here this year." (Applause.)

The President.—"If there are no other delegates or gentlemen here from any other States we will now proceed to the scientific part of the program. Dr. Charles Henry Dean of Salisbury will now read his address on 'Clinical Notes on Alcoholic Multiple Neuritis.'"

Dr. Dean's paper was then delivered.

[THIS PAPER AND ALL OTHERS REPORTED IN THESE TRANSACTIONS AND THE DISCUSSIONS THEREON WILL BE FOUND IN THIS AND OTHER NUMBERS OF VOLUME I OF VERMONT MEDICINE.]

The President.—"When I introduce Dr. Lovett as being a Vermonter I should say that he has been with us so much this summer, and has done so much for us that I am sure our secretary could not resist the temptation of asking him to come here and tell us about the Treatment of Infantile Paralysis. I will now call upon Dr. Lovett." (Applause.)

Dr. Lovett's paper followed.

The President.—"In the hundred and two years of its existence the Vermont Medical Society has received as guests to its sessions many notable men of our profession. I am proud and happy to say that as President of this Society I have a great and distinguished honor of presenting to you General Gorgas of the Panama Zone." (Applause.)

Gen. Gorgas rose and bowed.

On motion the meeting adjourned until 2 o'clock P. M.

THURSDAY AFTERNOON

The meeting was called to order by President Townsend at two o'clock.

The President.—"Dr. Brown, the Auditor, is, I understand, now present and we will call for his report."

The Auditor's report was read by Dr. E. M. Brown.

The President.—"The Treasurer's report was referred to the House of Delegates and I suppose it will be perfectly proper for the auditor's report to be attached thereto.

The President.—"Gentlemen, it is with great sorrow that, through a telegram received from Dr. Ryan, I have to announce the death of a former presi-

dent of this society, Dr. M. R. Crain, of Rutland, Vermont. He had expected to be present at this meeting, but died very suddenly."

The first paper of the afternoon session was the Vice-President's Address, The Biliary Tract, Edward Harlem Ross, M.D., St. Johnsbury.

The President.—"I trust the gentlemen present will pay great attention to Dr. Cannon, and give the paper a good discussion. It can certainly be no gratification for a man to prepare a paper and have but a sparse discussion on it, and I think we get more good from the discussion than the paper."

Then followed the first Oration in Medicine entitled A New Concept of Diseases Having Emotional Elements, by Prof. Walter B. Cannon, Boston, Mass.

The next paper was The Treatment of Chronic Interstitial Nephritis by Dr. F. W. Harriman, Montpelier.

Then followed the paper, Some Observations on the Relation of the Ductless Glands and their Secretions to Health, John H. Blodgett, M.D., Bellows Falls, Vt.

The President.—"The secretary wishes me to announce that the last paper to-morrow will be the "Oration in Surgery" by Dr. Bloodgood. He asks me to request that members and guests give Dr. Bloodgood an audience rather than hasten away on early trains. He also wishes me to ask the members of the House of Delegates to remain seated, as the House of Delegates meets in this hall at once."

Adjourned until to-morrow.

The Fixed Session of the House of Delegates was held at 5 P. M. in the Lecture Hall of the Medical College and the report will be found in the Transactions of Friday afternoon.

During the afternoon the ladies were entertained at the Klifa Club.

Thursday Evening at 7:30 P. M. at the High School Hall, Gen. Wm. C. Gorgas, Surg. General of the United States Army delivered a popular address on the Sanitation of the Canal Zone and the Construction of the Panama Canal. This address was profusely illustrated by stereopticon and was enthusiastically received by the large audience present.

At 9 P. M. at the Hotel Vermont the Annual Dinner was served with Dr. Edmund J. Melville as Anniversary Chairman.

FRIDAY, OCTOBER 15TH

The morning was entirely devoted to clinics. At 8:30 A. M. at The Mary Fletcher Hospital Prof. Joseph Colt Bloodgood of Baltimore, Md., held a clinic on Cancer. The interest was so great in Dr. Bloodgood's talk that, by request, he occupied all the time allotted him and did no operations.

Afterward, Prof. Smith Ely Jelliffe gave a neurological clinic which was well received, and Prof. Walter B. James gave a clinic on Irregularities of the Pulse. This clinic was packed and the very highest appreciation was shown of Dr. James' accurate observations.

At the same hour Prof. Jos. H. Abraham examined many nose and throat cases and performed several instructive operations. His clinic, too, was thoroughly appreciated by the medical men present.

The devoting of one half day to clinics alone is an innovation that seemed to be satisfactory to the members.

FRIDAY AFTERNOON

The meeting was called to order by Pres. Townsend at 2 o'clock.

The report of the House of Delegates was read by Secretary Adams as follows:

(*Continued in February Number*)

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

JAMES MADISON HAMILTON, M. D., Rutland, Sec'y.
CHARLES FRANCIS DALTON, M. D., Burlington, Treas.
A. STUART M. CHISHOLM, M. D., Bennington, Editor.

All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.

The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, January 1916.

TO THE MEMBERS OF THE VERMONT STATE MEDICAL SOCIETY

In accordance with the action taken at the last annual meeting of the Society, we have to-day the honor to present to you the first number of the journal which, after some interruption, under a new name, and in a slightly changed form, hopes to fulfill, with more favorable auspices, the role formerly sustained so excellently by the *Vermont Medical Monthly*. The Publication Committee takes this opportunity to greet the fellow members of the State Society and to ask of them their support and assistance in their new enterprise.

For it is your publication that now makes its entry and presents its hearty greetings to the physicians of Vermont, and the question of its success depends largely on your co-operation. The Publication Committee are your representatives and may reasonably expect such effective support as alone can ensure success. Especially is it desirable that the County Societies lend their aid. VERMONT MEDICINE is more than the official organ of the Society; it is the collective utterance of the physicians of the State and that utterance is incomplete without the voice of the County Societies.

But while confessing a divided and delegated responsibility, the Publication Committee recognizes its own obligations to the Society, to the County Societies and to the physicians of the State; and these obligations it has no desire to evade. The advertising pages of VERMONT MEDICINE will be kept free from the taint of commercialism and rigidly free from the custom, which we regret to see is still followed by a few of our contemporaries, of advancing the sale of those perilous nostrums which are not properly even commercialism but robbery. We will never hold the candle to such crimes against humanity. This is an unpleasant topic, which we touch on merely to affirm our own attitude, hoping never to have occasion to handle it more directly and more fully, which we shall nevertheless do if need arise.

We shall keep our columns free from medical politics, if there should chance to be such a thing among us, and from all other kinds of politics. The single purpose of this Journal is to promote the cause of scientific medicine in the State of Vermont, through the influence of the practitioners of medicine. It hopes indirectly to affect public sentiment also, in matters where that sentiment may be of use and value to us in our work. And the benefit of an enlightened public sentiment has been amply shown in the crusade that we have all witnessed—and shared—against tuberculosis. In 1900 the death rate from tuberculosis of the lungs per 100,000 of population was 173.3 in the United States and 133.9 in Vermont. In

1913 this rate had been reduced in the United States to 127.7 and in Vermont to 85.1. How eloquent these mere figures are!

It is doubtless true that many men and women outside the professional circle have labored more earnestly and more effectively than many of us who are within that circle. They have more practical and effective knowledge of tuberculosis than many physicians, and to them must be largely ascribed the general interest in tuberculosis felt by the community at large, and the diminution in the death rate of which we have spoken. What popular sentiment has done in their case we desire it should also do in the case of cancer. It is true that our knowledge of cancer is very imperfect, but we know that early recognition and timely extirpation are as yet our only sure hope of cure. In the case of tuberculosis, an enlightened sentiment reacted beneficially on the profession of medicine and compelled many careless delinquents among our ranks to make an early diagnosis, and gave them courage to insist on instituting the necessary treatment. Enlightened sentiment expelled the dread with which, twenty years ago, the people in general regarded the sanatoriums which were first established for the treatment of tuberculous patients, and a similar sentiment must be evoked to-day to assure to incipient cancer cases the early operation which alone at present offers a certain hope of cure. Neglected and inoperable cases of cancer are more frequent to-day than last-stage tuberculosis cases. Doubtless the inevitable result of operation on neglected cancer cases acts as a deterrent to all patients with cancer, and it is here also that public sentiment must come to our aid, for often an operation offers to these neglected cases the only chance of prolonging life, and the conditions under which operation is done need to be generally understood, since the remote chance of recovery must not in even these advanced cases remain wholly unconsidered.

Still there are many cases where it is obviously useless to operate, and the final decision very properly rests with the surgeon. What limit, if any, should be set to the extent of this decision, or what control, if any, should be instituted? This question opens up a difficult field for discussion. Perhaps the solution rests at last on the same principle that was involved in the case of imperforate anus that was recently allowed to die in Chicago after an operation was refused, and the still more recent case of spina bifida which died after a like refusal, in one of the New York hospitals.

But the full discussion of this matter is too important and demands too much time to be presented in full at present. In another article we will take it up at length and in detail. Moreover, the present purpose of the Committee is to make its bow and not to dip into questions of ethics and casuistry.

We present, then, to the physicians of Vermont this, the first number of VERMONT MEDICINE, in the hope that the year may be one of mutual pleasure and advantage, as it promises to be, if we all co-operate in the work of the journal. We desire your suggestions, we court your criticism, we solicit your assistance, for we are your representatives, whom you have delegated for this especial purpose, and we will work both for your approval and for your advantage so far as our abilities may extend.

DEFECTIVE CHILDREN

We have alluded to the two children, one with imperforate anus and the other with spina bifida, who have recently been condemned to a speedy

death by the decision of their attending or consultant physicians. These cases have excited much newspaper comment and have been considered by several medical journals. One of these journals discusses at some length what it would be best to do with such cases, and remarks that each individual case must be decided on its own merits without regard to any fixed rule. Let us think this over for a moment.

The first question to be decided is, what constitutes a defect sufficient for the sentence of death? Imperforate anus, spina bifida, congenital dislocation of the hip, the amputation of an arm in utero, harelip, or naevus? These are all more or less serious defects. Now who shall assume the authority to decide in the matter? Moreover, to what period of life shall such jurisdiction be restricted? If it be permitted to pass the death sentence on the newly born defective, why should not children of maturer life be also put to death when they shall acquire such defects as would have compelled them, in early infancy, to die unfriended and unhelped, and to what age shall the physician refuse his succor? Blindness constitutes a more serious and a more hopeless defect than imperforate anus. Shall the blind, then, of all ages of life be put to death? It must be very easy to kill a blind man. Almost anyone could do it. Helen Keller can never for a moment have had a right to live. Or is an infant with spina bifida more defective than one who is deaf, dumb and blind?

Letting such infants die of studied and determined neglect rests upon the hypothesis that they will never be self-supporting and will become a burden. But who is there that is entirely self-supporting and depends on no one for help or comfort? And some of us are not only a burden to our friends and families, but a positive nuisance. And yet we do not wish to die, and anyone who came to put us to death would be coldly received.

It is reasonable to ascribe these cases of infantile neglect partly to the influence of what is called Eugenics, concerning which we hope to say something in a future number of VERMONT MEDICINE, and partly to the foolish trust, which yet clings to us, in the doctrines of Malthus and Mill, and other political philosophers who divided all mankind into the two classes of producers and consumers. A producer was the Savior of Humanity, and a consumer was a devouring pest; one was the constructive, the other the destructive principle. But what miraculous foresight enables a physician to discern a useless from a useful life at birth, to look into the seeds of time and read their future development? And assuming that this tangled web has been woven; that a system of casuistry has been perfected, codified and enacted; that a tribunal has been erected and its authority confirmed; it remains to select the executioner,—the headsman of these helpless aspirants to life. If there be one man in the state who can never qualify for this proud office, it is the physician, whose function is not to destroy life, but to save it.

These little ones have come to the threshold of life and plead to enter,—the door is shut in their face by the family physician and they are left outside. It is like throwing some one's else baby into the sea from an ocean liner, because it wouldn't amount to much anyway and might become a burden to society. The Roman law gave to the father the power of life and death over his own children but not over those of another.

Moreover, the Purpose of Life is a matter which must be settled before any person or persons be empowered to

destroy it—either actively or by neglect. What is the purpose of life? The answer in the catechism to the question, What is the Chief End of Man? is not satisfactory. It attempts to answer one riddle by another, and adds a new obscurity. But until the question is really answered, we cannot tell at what point the purpose of life is achieved, or who, among newly born children, will prove to possess the best aptitude for its achievement. Certainly the highest act in life is not an act of mere utility,—of material production, such as growing wheat or making shoes. Political economists tread their little round on a very low plane. Whole spheres of activity, the broad domains of spiritual life, lie beyond their contemplation. You cannot see the stars through a microscope.

Upon whom does a mother lavish the treasures of her heart? Not upon the robust youngster in vigorous animal health, but upon the puny one, the weakling, the physically defective child. This is the one who calls for the deep emotions of sympathy, of soothing care, of maternal solicitude. Are these nothing? It is a law of human nature that we love those most for whom we have sacrificed the most. Shall the mother be denied the spiritual joy that comes from her tender ministration of a defective infant? In stirring such deep emotions, does not the poor little one acquire the right to live? And what physician shall dare to annul that right?

THE ERADICATION OF TUBERCULOSIS

While stimulating the physicians of Vermont to an early recognition of cancer and emphasizing the necessity of early operation, it is far from our purpose to abate any portion of the effort for the extirpation of tuberculosis. Unfortunately there seems to be something of a lull in professional expectation as in public interest in respect to tuberculosis. This is wrong. The discovery of an efficient antitoxin or of a satisfactory ferment is desirable, but is not essential to the eradication of tuberculosis. As in rabies, Rosenau and others pointed out that the disease could be erased from mortuary statistics by compelling all dogs to wear muzzles for a definite time; as in yellow fever, the spread of the disease is prevented by protecting patients from the access of mosquitoes; so in tuberculosis we have at hand, ready to be applied, the means of putting an end to its ravages, even without the discovery of a specific remedy.

The truth and the importance of this statement would only be weakened by the easy artifice of elaborate exposition. Plain speaking is better. The admirable work of our State Sanatorium and of similar institutions throughout the land can never be adequately commended. But their work lies among the incipient cases and no suitable provision is made for the hopeless ones, who are rejected for want of room and who return to their families. Well, these are the tuberculosis-carriers and each of them, returning home, becomes a focus of infection. To prevent the spread of the disease they must be segregated. The writer pointed this out years ago and experience has confirmed the fact. What would happen if small-pox and scarlet fever cases were turned abroad during the most virulent stage of the disease and left to scatter infection without limit or control? And this is what we are doing with tuberculosis,—every community has its tuberculosis-carriers, over whom no restraint whatever is exercised. How, under such lax conditions, can we ever hope to eradicate the disease?

What can we do about it? We can provide homes for these last-stage, hopeless tuberculosis patients, where they

can be cared for and made as comfortable as possible while they live. Segregation is not necessarily isolation. Under suitable precautions, they could receive the visits of friends and relatives and their seclusion be rendered as easy as possible. But the menace would be lessened if not removed, for these unfortunates are the feeders of our institutions for incipient cases. We have provided for the individual patients where hope yet remains; what shall we do with the general menace, hopeless, virulent and uncontrolled?

SECRETARY'S PAGE

According to the by-laws of the Vermont State Medical Society, all dues are payable for the calendar year in advance, or not later than March 31st.

For the first time since this became the rule, the Society is issuing a Medical Journal. This goes to each member of the Society whose dues are paid. The January, February and March numbers go to those whose dues were paid for 1915, but the mailing list will be revised to correspond with the Roster, which will be published in the April number.

* * *

Attention of members is directed to the Post-Graduate work now being done in the County Societies. In accordance with the suggestion of the retiring President, the House of Delegates authorized the Secretary to provide a post-graduate course of talks and clinics in the County Societies. Six Societies have availed themselves of this privilege and programs have been arranged and are being carried out.

Members of all County Societies are always welcome to attend any of these meetings, wherever held.

* * *

The Secretary wishes to remind members that the advertising columns of VERMONT MEDICINE are arranged in accordance with the rules of the Co-operative Medical Advertising Bureau of the American Medical Association, and no advertisements will be accepted for pharmaceuticals that are not U. S. P. or N. F. preparations, unless they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association.

No other advertisements are solicited, unless the Committee on Publication is convinced that the products advertised are absolutely reliable and the advertisements not untruthful or exaggerated.

As this is your Journal, owned, published and controlled by the Vermont State Medical Society, will you not patronize your patrons, buy of them when you can and when writing them, mention VERMONT MEDICINE as the source of your information regarding their goods.

If any advertiser is not absolutely honest in his practice, his business is not acceptable, and if the advertisement appears in these columns, you have the assurance that in so far as this Committee can ascertain, you will receive honest treatment, if you write them.

Although this Journal is published primarily for the members of Vermont State Medical Society, the interest of the entire profession of the state will always be paramount, and any physician is at liberty to use the columns of VERMONT MEDICINE for any communication that is of interest to the profession.

* * *

VERMONT MEDICINE is financed by the State Society, but the Committee will be glad to receive subscriptions at the rate of one dollar per annum in advance, and the paper will be discontinued at the end of the subscription term. Address all subscriptions to VERMONT MEDICINE. 52 Grove St., Rutland, Vt.

TUBERCULOSIS NOTES

Only about fifteen per cent of patients admitted to sanatoria are incipient. To correct this the patient must consult the physician earlier and the physician must makes his diagnosis on symptoms only.

At first pulmonary tuberculosis produces toxemia with resultant symptoms, while the physical signs are still obscure, and there are no tubercle bacilli in the sputum, or no sputum.

The symptoms are—

Loss of a few pounds weight,

Slight loss of strength, energy, or endurance,

Constant feeling of tiredness,

Slight cough or equivalent hawking,

Blood, even very small amounts, in the sputum (only rarely due to other causes),

Occurs frequently about the menstrual period.

Poor appetite with indigestion either gastric or intestinal,

Slight fever, 99½ daily or almost daily; often present for only an hour and may occur at any time in the 24 hours. Secure a record of the temperature every two hours for a week, taking on even hours one day and odd hours the next.

Rapid pulse, 90 or more at rest, or unstable pulse, or palpitation,

Pallor, flushing of one cheek, or hoarseness,

Menstruation decreased or increased,

Chills, night-sweats and pain, usually after incipient stage has passed.

Any two or three of these lasting one month or more, or recurring frequently, warrant a diagnosis of incipient tuberculosis even in the absence of appreciable physical signs, *provided thorough search reveals no other cause.*

Always examine the chest and sputum, but disregard negative findings if symptoms are present.

A history of exposure to infection, of past tuberculous disease of the glands or bones, of slow convalescence from acute diseases, and especially a history of pleurisy, strengthens this diagnosis, but is not necessary for it.

In the next number of VERMONT MEDICINE I will examine in detail the treatment of tuberculosis by artificial pneumothorax.

H. S. G.

PROGRESS IN CANCER RESEARCH

Statistics are as "dry bones" to any subject, but they are conclusive that cancer is to a certain extent on the increase. Vermont, however, despite its reputation for having almost the highest death rate from this disease of any state, has good reason to feel hopeful for the future. The number of deaths from cancer for the year 1914 in this state was 397, and for the year 1915, to and including the first of November was only 277, which predicates a decrease of 25 per cent at least.

It is gratifying to learn that the United States Census Bureau is revising its cancer statistics and when completed they will be one of the most valuable assets to the cancer subject. One of the most vital improvements being made in this revision is the tabulation of "certain" and "uncertain" diagnoses. "Certain" diagnoses pertain only to such cases as have been proved to be cancerous by microscopic section. All diagnoses of internal cancer are classified as "uncertain" that are based upon clinical observation only. Such a classification should stimulate every physician to determine with greater accuracy the actual structural involvement causing death from this disease. Such information can only be determined by microscopic examination. "The improvement of cancer statistics has practical bearings of greater consequence than may at

first appear. Indeed the importance of statistical investigation in arriving at the solution of the cancer problem is likely to be overlooked. Much of the valuable knowledge of the disease which we possess to-day has resulted from the collection and comparison of statistical data, and this method must be relied upon, side by side with experimental research and clinical observation to elucidate the baffling problem of the nature and cause of this disease.'' A brief review of the government cancer statistics as compiled by Beitler show that, ''in the registration area for the year 1913 there were 49,928 deaths from cancer. Assuming that cancer is as prevalent in that portion of the population not included in the registration area, the total deaths in the year 1913 would be 76,694. In reviewing the cancer mortality over a ten-year period from 1904-1913, inclusive, a steady increase is noted in all years except the year 1906. The decline of the death rate in several of the major infectious diseases, namely, tuberculosis, pneumonia, typhoid fever, diphtheria and croup, stands in contrast to the cancer mortality.''

The etiology of cancer seems to have resolved itself into the fact that chronic irritation of whatever nature produces in a certain number of individuals, in the special group of cells subjected to such irritation, a bio-chemical change which allows of an atypical or cancerous cell development. It might also seem that heredity plays some little part in predisposing to this bio-chemical alteration inasmuch as apparently the same amount of irritation in one will not produce cancerous manifestation, while in another, having a cancerous family history, it appears to be an influencing factor. A complete history should always contain facts concerning the presence or absence of cancer in the patient's progenitors, as such data is especially valuable.

Physicians are usually ready to cooperate with any advance movement in the solution of a difficult medical problem. ''Every human being will be warned but the warnings of things that are not, and may never become, cancer do not differ from the warnings of the things that are cancer.'' It is then our duty to find out which is which. The general practitioner can probably do more *individually* towards aiding in the solution of the cancer problem by forming the habit of section taking than in any other one act. In the event of death he should be most tactful in overcoming the popular prejudice against post-mortem examinations, and as often as possible obtain tissue for microscopic examination. Every physician should have a firm conviction as to the necessity for such examinations and should whenever and wherever possible give expression to them in helping to mold public opinion in favor of such privileges on the part of the attending physician.

There has been considerable discussion as to the best methods and the proper time for the removal of tissue for diagnostic purposes. The ''table-side'' frozen section has its advocates and opponents as well as the so-called ''two-step'' operation. Which is the best in any individual case is more the duty of the surgeon to decide than for the general practitioner. Ewing says, ''The careful excision of a small piece of malignant tumor by a sharp scalpel need not as a rule tend to disseminate or aggravate the disease.'' This allows of a more careful study as to the progress of the disease and affords opportunity for doing the operation at a later day based upon a surer foundation than is usually obtained with a ''frozen section.'' Bloodgood's statistics for Johns Hopkins Hospital, however, appear to show almost

double the mortality in the "two-step" operation as compared with the single operative procedure guided by frozen section findings. Mayo too, speaking of microscopic diagnostic methods says, "none have been of more value to me than the frozen section."

Clinical experience abundantly demonstrates the variability of apparently identical microscopic cancerous growths. This variability is possible of differentiation more by means of the microscope than by any other one method. Ewing says, "The prognosis of a tumor may to a considerable extent be based on the microscopical structure. This assertion may be successfully maintained just to the extent that the pathologist is able to interpret the clinical diagnosis with the microscopic section." McCarty, referring to the examination of microscopic sections says. "It may be suggested (therefore) that a specimen when removed by wide excision be classified as primary epithelial hyperplasia, secondary hyperplasia or tertiary hyperplasia, the first being benign, the second being doubtful, and the third being malignant. Only by such a standardization will the clinician, the surgeon, and the surgical pathologist be able to cooperate scientifically in their efforts to render justice to the patient." Those present at the last annual meeting of the Vermont State Medical Society will remember Bloodgood's remarks as to the variability of opinions on identical pieces of tissue submitted by him to some ten or twelve different pathologists of note. Such a divergence of opinion is based upon differences of personal opinion due to the lack of a common pathological standard. It would seem as though McCarty's classification might offer an acceptable pathological standard.

Early cancers are essentially local in character and if recognized early are readily removable, or if present upon exposed epithelial surfaces are as readily eradicated by the intensive use of the Roentgen Ray. Relatively advanced cancers, especially those having developed metastases, are not usually amenable to any single method of treatment. Operation usually fails to reach all foci of extension, and so ultimately fails in its purpose. X-ray alone, likewise, seems to be unable to deal satisfactorily with large masses of malignant tissue. Opinion seems to favor operation supplemented by the intensive X-ray treatments over the operative field and wide areas outside. Such dual treatment is sometimes spoken of as the combined method. The X-ray treatments may be given before or after operation or both. Radium, because of its scarcity, expense of production, and varying strength is destined to a rather limited field of usefulness. Electric coagulation, dessication, and fulguration have their advantages and are really useful and perhaps preferable to operation or X-ray in a certain limited number of cases. There have been no satisfactory results regularly obtained by the use of vaccines, serums, extracts or medicaments used as injections subcutaneously, intravenously, or otherwise in cancer patients. These methods should be looked upon especially with suspicion until their value is better established. Noteworthy in this respect is the recently exploited Beebe Auto-lysin treatment. Experimental work carried on at the Huntington Memorial Hospital of New York City with the Beebe treatment has been most unsatisfactory and Cornell University, with which Beebe was formerly associated, repudiates any association with his present popular campaign.

As VERMONT MEDICINE appears from month to month a topical paper on the Present Cancer Situation will be prepared. Next month a brief review of the subject as it pertains to Cancer of the Breast will be presented.

C. F. B.

NEWS FROM COUNTY SOCIETIES

LAMOILLE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Lamoille County Medical Society was held at Morrisville, Wednesday afternoon, Dec. 22.

This was the first of a series of five Post-Graduate meetings, at which a visiting speaker is provided by the State Society.

Dr. W. G. Ricker, of St. Johnsbury, was present and gave a very interesting discourse on "Obstructions of the Upper Respiratory Organs."

This was said by those present to have been one of the most interesting meetings ever held by the Society.

The next meeting will be held at the same place on the afternoon of Jan. 25, 1916, the subject "Obstetrics" and the speaker Dr. R. E. Smith of Rutland.

RUTLAND COUNTY MEDICAL AND SURGICAL SOCIETY

The first meeting in the series of Post-Graduate Lectures and Clinics of the Rutland County Medical and Surgical Society was held at the Rutland Hospital on Tuesday, December 21st, 1915. Prof. P. E. McSweeney gave a very practical and interesting talk on Obstetric Procedure, demonstrating the use of forceps, etc., on a manikin.

Twenty-eight members were present. The next in the series will be an address on Early Diagnosis of Pulmonary Tuberculosis by Dr. Henry S. Goodall of Bennington, on Tuesday, Jan. 11, 1916.

SECRETARY'S REPORT

To the Members of the Vermont State Medical Society:—

I am glad to report a steady increase in the membership, as there are now 19 more than were enrolled last year.

The following table shows the changes that have taken place:

	Paid 1914	Died	Removed or Resigned	Dropped for N. P. D.	New or Reinstated	Members in Good Standing
Addison	28	0	1	0	0	27
Bennington ...	19	1	0	1	2	19
Caledonia	36	1	2	0	3	36
Chittenden ...	73	0	4	3	5	*71
Franklin	38	1	1	0	5	41
Lamoille	10	0	0	1	3	12
Orleans	9	0	0	1	8	16
Rutland	61	0	2	0	4	63
Washington ...	47	0	3	0	10	*54
Windham	35	0	3	2	5	35
Windsor	21	0	0	3	4	22
Total	377	3	16	11	49	396

*One member died who was in good standing for year.

There are also several who have recently been elected to County Societies, who prefer to begin their active membership with the beginning of the next fiscal year, rather than to pay the full annual dues for the remaining three months.

Would it be well to pro-rate the dues in some way so that those joining say on October first before the Annual Meeting might pay 50 per cent and be entitled to the privileges of that meeting, to the publications of the Society and to protective insurance?

They should pay at least 50 per cent, for their membership and privileges are continued, were they never to pay more, until March 31st of the following year, when the new roster is prepared.

Holding an annual meeting, publishing a book of Transactions and guaran-

teeing medico-legal defense are surely commendable and proper undertakings for a State Medical Society, but, if the Society is to be a success, it must do more for its members.

Our old Charter gives as the first purpose of the County Societies "the improvement of the theory and practice of the different branches of the healing art." These Societies were united by this same Charter into the Vermont State Medical Society and it is the duty of this organization to carry out the intent of the charter by working for this improvement along the most modern and approved lines.

In his Annual Address to-morrow President Townsend will suggest that some scheme be adopted that will make post-graduate study and clinics available to every member.

By no better means than these can the intent of the charter be carried out. Contact with other men and the free exchange of ideas clear the perspective of every physician whether he be a country practitioner or a city specialist.

Some Committee or Officer might be authorized to act as a bureau for the exchange of speakers between the various societies or, when the interest warrants, to furnish available men from abroad to deliver addresses or hold clinics.

With this same idea in mind your Secretary arranged on June 8th, 9th, 10th and 11th four meetings for the study of cancer in the four Districts of the Society at Rutland, Burlington, St. Johnsbury and Montpelier.

These meetings were for both the profession and the laity. The mornings were devoted to clinics, both consulting and operating. These were all held in the Hospitals. The afternoons were given over to scientific programs for physicians and the evening sessions to popular addresses with special stereopticon illustrations.

The speakers were Dr. Jonathan M. Wainwright of Scranton, Pa., Chairman of the Cancer Committee of the Medical Society of the State of Pennsylvania; Dr. Wm. Seaman Bainbridge of New York, Surgeon of the New York Skin and Cancer Hospital; Dr. Francis Carter Wood of New York, Director of the Crocker Cancer Research Laboratory of Columbia University; and Dr. Chas. Francis Dalton of Burlington, Secretary of the Vermont State Board of Health. Dr. A. Hopkins Thwaites of Melbourne, Australia, Professor of Biochemistry at The University of Melbourne, who was one of the party as the guest of Dr. Bainbridge, made several very interesting addresses.

All physicians of the State, regardless of membership in the Society, were invited to take part in the meetings and to send their patients to the clinics for consultation or operation.

There were never less than fifty physicians at the clinics. Drs. Wainwright and Bainbridge performed many operations and with Dr. Wood discussed both the operative cases and those sent in for consultation.

The professional meetings in the afternoons were also well attended. The addresses were illustrated with many lantern slides. These meetings were intended for medical men and attacked the cancer problem from that side.

The evening meetings were for the public and the speakers gave material that was intended not to create alarm, but to teach that the minor chronically irritated sore and the apparently harmless growth are deserving of the most careful attention before they assume malignancy and moreover these men taught that a great deal could be done for those cases that are so often called hopeless and denied the benefits of surgery.

The attendance at the evening meetings and the intelligent interest shown convince me that there is a great field in Vermont for the work of the Committee on Health and Public Instruction when that Committee can have funds at its disposal or, as was expected when the Committee was organized last year, aid from the Council of the American Medical Association.

Evidence is abundant that these meetings were successful in saving the lives of several unfortunates and it seems that physicians are attacking earlier and making sure of the diagnosis of apparently benign growths.

Personally I think this should be the beginning of a new era in our society. Let us not just pay as small dues as possible so that our names appear on the roster of the society and barely exist as an organization, but let us work to make this society valuable to its members by bringing to them opportunities for study that are unusual in the country.

We have had post-graduate work and clinics and we can just as well have more, not in Burlington and Rutland only where these things are the order of the day, but in the smaller town where perhaps not more than a dozen or twenty could get together. Perhaps operations could not always be held but who of us know our work well enough not to be delighted with the opportunity to study the pulse to-morrow with Doctor James.

Respectfully submitted,
JAS M. HAMILTON,
Secretary.

Rutland, Oct. 8th, 1915.

REPORT OF THE TREASURER

RECEIPTS.

Balance on hand, October, 1914		$2,894.83
Received from Addison County	$92.00	
Received from Bennington County	80.00	
Received from Caledonia County	140.00	
Received from Chittenden County	292.00	
Received from Franklin County	160.00	
Received from Lamoille County	48.00	
Received from Orleans County	68.00	
Received from Rutland County	148.00	
Received from Washington County	224.00	
Received from Windham County	128.00	
Received from Windsor County	88.00	
Total from County Societies		1,468.00
Received from Geo. C. Averill, Trust Fund Int.		65.00
Received from Dr. E. H. Mullan, Refund		65.00
Received from Rutland Local Committee, bal. 1914		11.65
Received from Int. on Savings Bank deposits		55.71
Total Receipts		$4,560.19

EXPENDITURES

Expense of 1914 *Meeting*

Paid Dr. J. Geo. Adami, expenses	$12.00
Paid Dr. E. H. Mullan, Trust Fund Int.	65.00
Paid Dr. Woods Hutchinson, exp. and fee	72.00

Paid Dr. C. M. Williams, expenses	$15.00	
Paid The Berwick, hotel bills	43.25	
Paid E. E. Foss, mileage for patient	2.45	
Paid G. S. Hicks, ambulance for patient	2.00	
Paid Sara E. Ryan, reporting	22.60	
Paid Eva J. Stickney, sten. work	1.35	
Paid Dr. F. W. Sears, exp. to delegate's session	3.81	
Paid Dr. S. L. Morrison, exp. to delegate's session	3.81	
Paid Dr. B. D. Adams, exp. to delegate's session	3.80	
Paid Dr. O. N. Eastman, exp. to delegate's session	3.80	
		$250.87
Printing		
Paid Burlington Med. Pub. Co., balance	$200.00	
Paid C. E. Allen	33.95	
Paid The Tuttle Co., Transactions	284.86	
Paid The Tuttle Co., misc. printing	61.65	
		580 46
Expense of Cancer Meetings		
Paid Pavilion Hotel	$6.50	
Paid Avenue House	5.00	
Paid St. Johnsbury House	10.00	
Paid Bardwell Hotel	6.00	
Paid Hotel Vermont	17.29	
Paid Edson Garage Co., Montpelier	.50	
Paid L. F. Brehmer, lantern	8.00	
Paid for mileages	19.74	
Paid Dr. J. M. Hamilton, misc. expenses	20.32	
Paid The Tuttle Co., printing	35.97	
		129.32
Secretary's Account		
Paid Dr. J. M. Hamilton, salary	$50.00	
Paid Dr. J. M. Hamilton, expenses	131.54	
		181.54
Medico-Legal Account		
Paid Warren R. Austin, services as attorney		176.06
Miscellaneous Account		
Paid Dr. R. M. Wells, exp. as councillor	$7.67	
Paid Dr. F. W. Sears, exp. Legislative Com.	3.50	
		11.17
Total Expenditures		$1,329.42
Balance on hand, October, 1915		$3,230.77
On deposit, Burlington Savings Bank	$1,162.04	
On deposit, Champlain Trust Co.	1,010.60	
Checking Acct., Burlington Trust Co.	1,058.13	
		$3,230.77
Balance after deducting Medico-Legal Fund		$311.95

MEDICO-LEGAL FUND

RECEIPTS

1911, Received from 336 members, at $2	$672.00	
1912, Received from 306 members, at $2	612.00	
1913, Received from 306 members, at $2	612.00	
1914, Received from 362 members, at $2	724.00	
1915, Received from 380 members, at $2	760.00	
Total Receipts		$3,380.00

EXPENDITURES

1911, Paid Attorney's fees	$76.07	
1912, Paid Attorney's fees	73.14	
1913, Paid Attorney's fees	135.91	
1914, Paid Attorney's fees	176.06	
Total Expenditures		461.18
Available balance, October 1, 1915		$2,918.82

In consideration of the large amount of money accumulating in the treasury, I would suggest that hereafter the Treasurer be required to furnish a suitable bond, the expense of the same to be paid by the Society.

Respectfully submitted,
CHAS. F. DALTON,
Treasurer.

EXECUTIVE COMMITTEE

Oct. 8th, 1915.

To the Members of the Vermont State Medical Society:—

The report of your Executive Committee is the Program now in your hands.

The only variation from former custom is Friday forenoon devoted entirely to clinics at the Hospital. This is an innovation that will be watched with interest.

Respectfully submitted,
JAS. M. HAMILTON,
A. E. COLTON,
C. H. BEECHER.

PUBLICATION COMMITTEE

October 8th, 1915.

To the Members of the Vermont State Medical Society:—

The House of Delegates at the last meeting of the Society voted that the publication of the "Transactions" be left in the hands of the Publication Committee and limited their expenditure to $750.00.

Your Committee published the "Transactions" in a volume uniform with that issued by the Vermont Medical Monthly at a cost of $284.86. A copy was mailed to each member in good standing.

At the close of the Cancer Study Meetings it seemed advisable to issue

another volume that should contain a detailed report of these meetings with the papers read and cuts of the illustrations used.

Although $465.14 of the appropriation for the use of the Committee was still available, we thought it best to ask permission from the Council to issue the proposed book.

This permission was granted with only one vote not absolutely favorable, and, although the expense would have been well within the $750.00, it would have been necessary to draw upon funds that some understand were collected for a definite purpose, and your Committee did not care to assume the responsibility for the expenditure that might not be unanimously approved.

The Publication Committee favors the publication of an Official Organ for the Society as a means of more direct communication between the members provided it can be done without an increase of dues or the use of the Medico-legal fund.

We would suggest that a committee be authorized to investigate and to act within the authority that may be conferred upon them by the House of Delegates, bearing in mind that any increase in dues at this time for any purpose however laudable would be nearly fatal to the Society.

Respectfully submitted,
JAS. M. HAMILTON,
CHAS. W. RAY,
C. W. BARTLETT.

NECROLOGY

DR. B. J. ANDREWS

Dr. B. J. Andrews was born in Jericho, Vt., January 11, 1850. He was educated in the public schools of Jericho; at Bellows Free Academy at Fairfax and at Franklin Institute, Franklin, Vt.

When seventeen years of age Dr. Andrews was appointed station agent at Bolton, where he remained for three years; he was then transferred to the station at Richmond, where he remained for eleven years. He was not content to make this his life work and resigned his position to take up the study of medicine. He was graduated from the University of Vermont College of Medicine in June, 1885; the following fall and winter he spent in New York doing post-graduate work. After this he decided to locate in Wichita, Kansas, and had made all preparations to go there when Dr. Greene of Richmond, who was a personal friend of his, was taken suddenly sick, and Dr. Andrews deferred his departure to care for his friend. A week later Dr. Greene died and the people importuned Dr. Andrews to stay in Richmond. This he finally decided to do, and practiced medicine there for three years, when, in February, 1889, he was elected Superintendent of the Mary Fletcher Hospital, in which position he remained for twenty-six years, giving up this work, on account of his health, just seven months before his death.

Dr. Andrews was Secretary of the University of Vermont College of Medicine from 1893 to 1905, when he resigned on account of trouble with his eyes, which within a few months resulted in total blindness.

Dr. Andrews was a man of sterling qualities, forceful to the extreme in whatever he undertook—there was no difficulty too great to be overcome. He had a big, tender heart, and many a needy family could testify to his thoughtfulness in providing necessities in time of their need. He was a man of clean mind, correct habits—a total abstainer and always used his influence to promote the cause of temperance.

His great work was in the building up of the Mary Fletcher Hospital. Be-

cause of his fine business ability he was especially fitted for the office of Superintendent, and the growth of the hospital under his direction and supervision was very marked; from a hospital of thirty-five beds and twelve nurses it became an institution of over one hundred twenty-five beds and more than fifty nurses.

Dr. Andrews accomplished much; his life was a life of service—a service which will continue so long as the institution to the building up of which he devoted so many years, shall remain.

Dr. Henry Janes

Notwithstanding the inevitable sadness connected with the idea of death, the severing of earthly ties and the final parting of the ways between ourselves and those we love, it should still be a pleasure rather than a grief to recall the memory and recount the virtues of lost friends. Such, gentlemen, is my task to-day; not alone a duty but a labor of love.

Forty long years of intimate personal and professional acquaintance with the subject of this sketch has resulted, to the writer, in a friendship which makes his loss a personal bereavement.

After nearly sixty years of continuous service in the practice of his profession, Dr. Henry Janes, a greatly beloved and honored physician and veteran surgeon of the Civil War, died in Waterbury, Vt., June 10, 1915. He was born in Waterbury, Vt., Jan. 24, 1832. His father was Henry F. Janes, lawyer, state treasurer and a member of Congress. His mother, Fanny (Butler) Janes, was a daughter of Governor Ezra Butler, who was the second settler of Waterbury. Dr. Janes received an academic education, was graduated from the College of Physicians and Surgeons in New York City in 1855, was house physician in Bellevue Hospital in 1855-56, and practiced medicine in Waterbury from 1857 to 1861. He entered the Army as major and surgeon of the 3d Vermont Volunteer Regiment in June, 1861; was commissioned major and surgeon, U. S. V., in May, 1863; was brevetted a lieutenant colonel for distinguished services in 1865; and served continuously until mustered out of the service in 1866. He had command of field hospitals at Burkettsville and Frederick, Md., in 1862; at Fredericksburg and Gettysburg in 1863. Soon after the seven days of fighting of the Army of the Potomac on the peninsula in 1862, though ill with "walking typhoid," he refused to take a furlough and remained on duty because his services were greatly needed. At the second battle of Fredericksburg Major Janes, having previously organized an efficient corps of surgeons and hospital attendants, was able to get the wounded transferred across the river, all needed surgical operations performed and all the wounds dressed and more than two thousand wounded men brought into the field hospital, and fed within twenty-four hours of their disability. He continued to serve as surgeon of the sixth Army Corps and marched with it on the thirty-five mile night march from Manchester to Gettysburg, July 1 and 2, 1863. Immediately after the battle, as a major surgeon, U. S. V., Dr. Janes was placed in command of all the Army hospitals in and around Gettysburg, established the Letterman General Field Hospital and proceeded to care for the 20,000 wounded Union and Confederate soldiers, directing the work of the 250 surgeons who attended them. Though it was found necessary to perform amputation of the lower extremity in more than 450 cases and the upper extremity in a still larger number of cases, by his well directed efforts, and those of his assistant surgeons in separate wards

kept for that purpose, more than 2,000 cases of severe injuries of the extremities were saved from amputation by conservative treatment. He was on duty in the South Street General Hospital, Philadelphia, in the winter and spring of 1863 and 1864, and during the following summer was surgeon in charge of the hospital steamer, Maine, which conveyed the sick and wounded soldiers from the Wilderness and other Virginia battlefields of 1864, via City Point to the hospitals in Washington.

In those one-night trips up the Chesapeake Bay and the Potomac he was indefatigable in his efforts to secure the necessary supplies and to make sure that every sick and wounded man on the boat was made as comfortable as possible, and that every man received at least one good meal. He was ordered to take charge of the Sloan General Hospital, Montpelier, Vt., in the autumn of 1864, where he remained on duty until it was closed in 1866, when he was honorably discharged from the service. During his five years of service as surgeon in the Army, more than 49,000 wounded soldiers passed through his hands; a record which, it is believed, has not been surpassed by any surgeon in the Army. Returning to his home in Waterbury in 1867, that he might be with his parents in their declining years, Dr. Janes resumed the practice of medicine and surgery there and soon became known throughout the State as one of its best and most highly esteemed physicians and surgeons. He published numerous important papers, notably on G. S. fractures and amputations. He was president of the Vermont State Medical Society in 1870; was consulting surgeon at Mary Fletcher Hospital, Burlington, and Heaton Hospital, Montpelier; surgeon general, Vermont National Guard; chairman Vermont Board Medical Censors; president, Vermont Board Medical Registration; trustee, University of Vermont, and president Waterbury Village trustees. He served as a member of the Vermont State Legislature in 1890, was a member of Bellevue Hospital Alumni Association, of the G. A. R. the M. O. L. L. U. S., and of the Sons of the American Revolution. "He was a generous and loyal friend, stood for the highest professional and personal standards of living, was most conscientious in his work, independent, charitable, kind, hospitable and interested in everything that made for the good of his fellow citizens and especially in the young men. His wife died in 1909. He had no children. Several years ago he provided in his will that his beautiful home should be given to his native village for a public library building, and the income from other real estate to be used toward the maintenance of it. In this way the memory and influence of his life and work will be continued permanently in his home and village which he loved so well."

By Don D. Grout, M.D.

BOOK REVIEW

"A Mechanistic View of War and Peace," by George W. Crile, published by the Macmillan Co., 1915. $1.25

Dr. Crile returned a few months ago from service as surgeon in charge of one of the hospital units in France, and this book is the result in part of his observations of men in the trenches and hospitals, in part of information gathered at the front, and in part of a desire to correlate all these facts and explain the origin and phenomena of war. This last is not an easy thing to do, and it is no detriment to the interest of the book, and no disparagement to Dr. Crile, to say that he has not done it. Psychology and Mechanics may properly enough travel together, hand in hand, with

equal pace to a common end, but after confessing that a million years of education and training, thousands of years of civilization and twenty centuries of Christianity have failed to obliterate or even materially to modify the savage instincts that lie in the depths of our souls, there seems to be something of credulity in the belief that more advanced education and a higher culture will succeed in abolishing the "action-patterns" of war. War may be prevented in two ways; by external force or by an inward spirit of love. When peace returns, measures may be taken by international agreement whereby mankind in a period of sanity may devise means to control men during their paroxysms of war-madness; or the spirit of Christianity, as yet scarcely developed, may assert the brotherhood of man and supersede the "action-patterns" of war by those of the true and very principles of Christ. Dr. Crile's book is interesting reading, and by awakening opposition, stimulates thought and begets ideas. This of itself is high praise.

LECTURE CAMPAIGN BY VT. STATE MEDICAL SOCIETY

State Physicians to Co-operate With National Body in Giving Health Talks

Burlington, Nov. 24.—The Vermont State Medical Society has issued the following announcement concerning the plans of the American Medical association:—

"No effort in the modern educational world better expresses the spirit of the times or deserves more commendation than the attitude of the American Medical association toward informing the general public along the lines of preventive medicine.

"The American Medical Association has a clearly developed plan for systematic work throughout the United States and holds each state medical society responsible for the work in its own state.

Outline of Plan

"The public health committee for the Vermont State Medical Society met in Burlington November 16 and outlined the following plan for the work in this state:—

"A committee will be chosen from each county and city medical society which will have charge of the work in that section and endeavor to come in touch with all local organizations as granges, church societies, schools, Parent-Teacher Associations, men and women's clubs and those interested in outlying or rural districts.

Local Committees to Be Formed

"The local committee will arrange for the lectures or talks on being notified that such is desired, and it is earnestly hoped that every organization will feel that its work has not been "well done" unless at least one of the public health lectures has been included in its program.

"The newspapers will aid in giving press notices of public interest and helpfulness. The University of Vermont extension course is hoped to be utilized, especially in rural districts and the committee expects to arrange a series of lectures, at different points in the state, by popular public health officials who will visit this state.

Speakers May Be Secured

"Health problems form one of the greatest economic factors with which we deal and it is hoped that every physician will co-operate to further this great work and show the true spirit to work for preventive as well as curative medicine.

"Societies wishing to make arrangements for speakers on health questions may refer to G. G. Marshall, Rutland;

L. H. Ross, Bennington; Grace L. Sherwood, St. Albans; G. I. Forbes, Burlington, and F. W. Harriman, Montpelier."

Besides the work of local committees as outlined above, arrangements are being made for Dr. Hubbard of the Department of Health in New York City to give two or three lectures in the State about the last of January. One of these lectures is to be given in Rutland, the other in Burlington and possibly a third one in Montpelier or St. Johnsbury. Dr. Hubbard's lectures will be open to the public and illustrated by lantern slides. The daily papers have been willing to co-operate with the committee in using medical news as issued weekly by the American Medical Association.

OFFICERS OF VERMONT STATE MEDICAL SOCIETY

1915-1916

President—E. H. Ross, St. Johnsbury.

Vice-President—C. W. Bartlett, Bennington.

Secretary—J. M. Hamilton, Rutland.

Treasurer—C. F. Dalton, Burlington.

Auditor—W. F. Hazelton, Bellows Falls.

Councillors—1st District, E. J. Melville, St. Albans; 2nd District, S. W. Hammond, Rutland; 3rd District, R. M. Wells, Orleans.

Executive Committee—J. M. Hamilton, Rutland; G. W. Ricker, St. Johnsbury; J. A. Stevenson, Chester.

Publication Committee—J. M. Hamilton, Rutland; C. F. Dalton, Burlington; A. S. M. Chisholm, Bennington.

Legislative Committee—F. W. Sears, Burlington; W. N. Bryant, Ludlow; H. H. Swift, Pittsford.

Medical Education Committee—F. E. Clark, 1916; J. J. Derven, 1917; G. C. Rublee, 1918.

Necrology Committee—F. T. Kidder, Woodstock; H. L. Manchester, Pawlet; O. V. Greene, Bethel.

Medico-Legal Committee—E. A. Hyatt, 1916; J. N. Jenne, 1917; W. N. Bryant, 1918.

Committee on Health and Public Instruction—G. G. Marshall, Rutland; L. H. Ross, Bennington; Grace Sherwood, St. Albans; G. I. Forbes, Burlington; F. W. Harriman, Montpelier.

DELEGATES

Connecticut River Valley Medical Association—C. F. Ball, Rutland.

Maine State Medical Association—M. P. Stanley, White River Junction.

New Hampshire Medical Society—J. M. Gibson, McIndoes Falls.

Massachusetts Medical Society—C. W. Bartlett, Bennington.

Connecticut State Medical Society—C. W. Howard, Shoreham.

Rhode Island Medical Society—W. H. Lane, Brattleboro.

Medical Society State of New York—L. M. Kelley, Manchester.

American Medical Association—Alan Davidson, St. Albans.

Anniversary Chairman—F. E. Clark, Burlington.

* * *

Annual meeting Oct. 12 and 13, 1916, at St. Johnsbury.

A VALUABLE HELP

We take pleasure in announcing that the notes on progress in cancer research, which we hope to publish in each number of VERMONT MEDICINE will be under the supervision of Doctor Clarence F. Ball of Rutland, and the notes on tuberculosis will be in charge of Doctor Henry S. Goodall of Bennington. Our readers may thus expect that nothing of value in either department will escape the observation of these gentlemen or will fail to be presented to your attention.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 2 $1.00 per Annum

Rutland, Vermont, February, 1916.

Original Papers

The Vice-President's Address

Edward Harlan Ross, M.D.

THE BILIARY TRACT

Delivered at the Annual Meeting of the Vermont State Medical Society, October 14, 1915.

The biliary tract includes, of course, the system of ducts through which the bile passes from the liver to the intestines, and consists of the hepatic ducts, the cystic duct, the gall bladder, and the common duct. Let me briefly recall the anatomy of these parts.

Picture to yourself a tree whose trunk divides into two main branches, and each of these, in turn, sub-divides into many small branches. In this picture the smaller twigs represent the small hepatic ducts uniting to form one duct from the right lobe of the liver and one from the left lobe, these in turn forming the main hepatic duct, which is joined by the cystic duct, leading from the gall bladder, to form the common duct, which extends to and enters the duodenum on its posterior surface.

The gall bladder lies on the under surface of the liver, a little to the right of the median line of the body. Its average capacity is about 1½ oz. When we consider its size, and remember that the secretion of bile very nearly equals the secretion of urine by the kidneys. the old idea that it served as a storehouse for the bile, is manifestly incorrect. The theory formerly advanced was that the bile collected in the gall bladder, which at the proper time contracted and forced the bile into the bowel. More recently it is claimed that the gall bladder has very little if any power of contraction; that its muscular fibers are few, and its connective tissue of the elastic type; that considering these facts and its position, we may conclude that it serves the same purpose as a stand pipe in a water system, and takes off undue pressure from the ducts. This claim appears more reasonable when we remember that the common bile duct joins the duct from the pancreas. or rather they both empty their contents into the ampule of Vater in the wall of the duodenum. Too great pressure of the bile would force it into the pancreas, and it has been shown that when this occurs, destruction or at least injury to the pancreas results. It has been further shown that when bile is diluted or mixed with mucus, its injurious effects on the pancreas are greatly decreased. Now the mucus in the bile is furnished principally by the

gall bladder, therefore it is reasonable to suppose that it serves an important function in safeguarding the pancreas from injury by the bile, both by the relief from pressure and the introduction of mucus.

The secretion of bile is stimulated by the ingestion of food or fluids. During fasting, the rate of secretion is slow. When food is taken and passes from the stomach into the duodenum, over the bile papilla, the flow of bile is quickened through the ducts and any excess enters the gall bladder.

The bile is a reddish-brown, somewhat viscid liquid, having an extremely bitter taste and a peculiar aromatic odor. Its color changes to greenish brown when partially decomposed. The color scheme is determined by the two "bilis," bilirubin and biliverdin. In man and the carnivora, bilirubin predominates, while in the herbivora, biliverdin is in excess. Aside from these pigments, it contains sodium taurocholate and sodium glycocholate, cholesterin, mucus derived principally from the gall bladder, some fatty matter, traces of the inorganic salts sodium and potassium chloride, calcium phosphate, some magnesia and quite a little iron. The balance is made up of water, about 85% of the whole. The bile is secreted by the liver cells, collected in the hepatic ducts and passed along through the cystic duct to the gall bladder or on through the common duct to the duodenum. Here it begins its functions by meeting the acid contents of the stomach as it is poured into the duodenum and by its alkaline reaction precipitating the acid albumin and peptone, and by the action of the bile acids, stopping the action of the pepsin. In this way the peptic digestion is suddenly stopped and the way prepared for the action of the pancreatic juice on the chyme. More than this, it acts as a stimulant on the intestinal musculature, and so hastens the passage of food along the canal. This favors the absorption of food already digested, and passes along those insoluble portions which are to be thrown off from the body. Then, too, the quantity of the bile, which amounts to from 20 to 36 oz. per day, helps to moisten the food, and, because of the mucus contained in it, lubricates the canal, and in this way aids the onward passage and final expulsion of the faeces.

Because the bile has some soap in solution, it has a close relationship to both watery and oily fluids, and possibly on this account and perhaps as well because of the peculiar action of the bile salts, a membrane saturated with bile allows an emulsion of fat to pass through it much more readily than the same membrane when moistened with water. It also helps to form emulsions of the fats in connection with the action of the pancreatic juice. Certain antiseptic qualities have been ascribed to it, but this has been disproved by showing that it makes a very good culture medium for most germs, and furthermore, germ life abounds in the duodenum, as well as lower down in the intestinal tracts.

Quite a portion of the bile is excreted along with the faeces, but some portions of it are reabsorbed into the blood and again used in the system.

Under ordinary conditions, all these processes take place without your knowledge. As long as the flow of bile is free and unobstructed, you experience no inconvenience, but when for any reason an obstacle is placed in its path, trouble begins. Catarrhal inflammation of the lining of the bile ducts frequently pre-

vents the outflow of bile, and there results a condition known as catarrhal jaundice, caused by the reabsorption of bile into the blood, as indicated by the familiar yellow skin and eyes, and the other disagreeable symptoms attending it. This, however, is not serious, as the inflammation subsides in about two weeks, the flow of bile is re-established, and the yellow tint disappears from the skin and conjunctivae.

If, however, the gall bladder becomes infected, the condition becomes more serious, depending for its severity upon the virulence of the infection. Probably in most cases the primary infection escapes notice and passes without causing symptoms of marked severity. The results of it, however, are apt to be lasting. Bacteria once introduced into the gall bladder are apt to remain and continue a low grade inflammation which finally results in the formation of gall stones.

Bacteria finds their way to the gall bladder by two principal routes, (1) By extension upwards from the bowel by way of the common duct; (2) By the blood stream chiefly through the portal vein. As long as the bile flows freely, it has a strong tendency to wash back any bacteria that may be lurking in the bowel waiting to move into new quarters. When the flow is obstructed, even in part, their entrance is greatly facilitated.

If you bear in mind that the portal vein receives the blood from the whole digestive tract, which commonly swarms with bacteria, and delivers the blood to the liver, you will concede that the chances are very good for infection from this source. Infection carried to the bile ducts in this way is promptly swept along in a free flowing bile stream and does no damage. It is only when the stream is slowed or stopped that the bacteria have time and opportunity to develop and cause trouble.

The bacteria most often concerned in the formation of gall stones are the bacillus typhosus, and the colon bacillus. More rarely the streptococcus pyogenes and the staphylococcus pyogenes aureus are found. At times the infection is of a mixed character, more than one variety of bacteria being found. Runyan explains formation of gall stones as follows: "The bacterial infection produces an inflammation of the mucous membrane, and a dequamation of its epithelial cells. These latter contain undissolved cholesterin. They likewise contain calcium salts and these probably react to form the insoluble calcium salt of bilirubin. From this salt as well as from the amorphous cholesterin in the cells, the biliary calculus takes its origin. Its further growth is carried on by the deposition and re-crystallization of new material, especially of cholesterin."

Trouble in the gall bladder and the existence of gall stones is much more common than is generally supposed. Statistics derived from autopsies and operations show that about 10% of all persons have gall stones. They have been found in children at birth and in persons of all ages. The age at which they are most commonly discovered is the decade from 35 to 45. Women show a much greater tendency to develop them than men, the proportion being about 3 to 1. Pregnancy and women's clothing, especially tight lacing and constipation, are said to account for this.

Many cases of gall stones pass unrecognized because they cause no symptoms, many more escape recognition because the symptoms they do cause are

not rightly interpreted, but are attributed to the stomach rather than the gall bladder.

Our knowledge of gall bladder conditions has been greatly increased during the last twenty years, and notably during the last ten years. We were formerly taught that we must have jaundice and attacks of severe colicky pain in order to diagnose gall stones. Today we know that both of these symptoms may be absent and still serious trouble exist in the gall bladder. Jaundice due to gall stones can be caused only by obstruction of the common duct by a stone. Occasionally this may be intermittent in character, the stone acting like a ball valve, and alternately stopping the flow of bile and allowing it to proceed.

Gall stone colic is caused by the passage or attempted passage of a gall stone through the ducts. This pain is more apt to result when the gall stones are small for the reason that the bile ducts are small, the cystic duct having a diameter of about 1/8″, the common hepatic duct about 1/6″ and the common duct which gradually narrows as it approaches the bowel, at its beginning is about 5-16″ in diameter, at its end about 3-16″. You can readily see that a stone of any considerable size could not engage in the ducts, and for this reason colic would not occur.

Any patient who comes to us with a history of "indigestion" of long standing; who complains of a dull aching pain in the upper abdomen, especially if the pain extends back under the right shoulder blade or occasionally under the left; whose attacks of indigestion begin with nausea and end with vomiting, is at once suspected of gall bladder disease.

If in addition he gives a history of occasional "bilious" attacks, attended with fever of short duration which leaves him tender over the region of the gall bladder, we find that there is tenderness and muscular rigidity when pressure is made at the edge of the ribs and a little to the right of the median line, we feel reasonably sure that the offending organ is the gall bladder. If in addition he tells us that he has had typhoid fever, or in the case of a woman, has borne children, our opinion becomes positive.

Why is it that some cases of gall stones cause trouble and some do not? And why do we find severe cases of infected gall bladder without the presence of gall stones? The reason is that gall stones results from a mild or attenuated infection coupled with some impediment to the free flow of the bile. They may then remain in the gall bladder without causing symptoms unless a fresh infection occurs. The result then is an inflamed gall bladder filled with pus as well as stones. The stones or part of them often become firmly packed in the neck of the bladder, and there results a collection of pus without any avenue of escape except by the destruction of the walls containing it.

Much the same condition results from a virulent infection of the gall bladder. Here the severe inflammation seals the cystic duct and closes the only means for natural drainage.

You will at once realize the dangers arising from such conditions. Nature always tries to liberate pus. In order to accomplish this, an opening must be made in the walls of the bladder. Where inflamed, the bladder very often becomes adherent to adjacent organs and occasionally an inflamed gall bladder has opened into surrounding organs, as, for example, the stomach or bowels, and a

free escape of the pus results. More often the bladder ruptures into the abdominal cavity, and death endues.

A few years ago I operated on a case in which the gall bladder had ruptured, but fortuntely there were sufficient adhesions about the point of rupture to form a circumscribed abscess under the liver. This I opened and drained and the man recovered, though for weeks he was about the sickest man I ever attended. In another case, I found the whole gall bladder gangrenous and on the point of rupture. This man also recovered, after a long illness.

Gall stones are composed of cholesterin or bilirubin-calcium, or combinations of the two, and more rarely of calcium carbonate. Attempts to detect their presence by means of the X-ray are unsuccessful except when they contain large amounts of calcium or magnesium. Cholesterin is as transparent to the X-ray as the soft tissues, and the great majority of gall stones are composed of it alone, or with a very small amount of calcium. Those composed of bilirubin-calcium are also nearly transparent to the X-ray. Quite recently more careful technique and more skillful interpretation of the shadows have enabled some roentgenologists to detect gall stones, even when composed of nearly pure cholesterin.

The number of stones found in the gall bladder varies from one up to several thousand, and the size varies from that of a mustard seed up to one weighing 3½ oz. which would be nearly as large as a goose egg. The largest number I have personally removed was something over 1,300. When these large numbers are found, most of them are of the mustard seed size, with perhaps one or two of the size of marbles. When several medium sized stones are found, they are faceted from pressure upon each other and resemble beech nuts in shape. When gall stones have once formed in the gall bladder, the only cure for them is removal by surgical means. Attempts to dissolve them by administering medicine are futile. A quite common impression is current among the laity that large doses of olive oil will effect their removal. Color is given to this impression by the appearance in the stools of many lumps of saponified oil, which on casual examination resemble gall stones.

When you consider the position of the gall bladder, and remember that any medicine in order to reach it must either work its way up the common and cystic ducts or be carried to it by the blood stream, you will realize the impossibility of accomplishing much of anything by this means. All that can be hoped for is to improve drainage by keeping the duodenum clear and perhaps limit or relieve the infection to some slight degree.

The consensus of medical opinion today is that disease of the gall bladder or bile ducts, due to either stones or infection, is a surgical condition and should be treated surgically.

Whether this shall be accomplished by removal of the stones and drainage for a sufficient length of time to clean up the infection, or by removal of the gall bladder with or without drainage, must depend upon conditions and the judgment of the operator.

English and American surgeons favor early operation, as soon as a diagnosis can be made, on the ground that operation before gross changes occur minimizes the danger, and gives a very small mortality. The Mayos state that the

mortality for all early operations for gall stones is only 3 percent; and the mortality for uncomplicated cases in the early stages is only 0.5 percent; while the mortality for later operations with stones in the common duct is 11 percent.

For cholecystitis without stones, the usual operation is cholecystotomy, though complications may render cholecystectomy necessary. Today cholecystectomy is practiced more often than formerly, as shown by the recent writings of such authorities as the Mayors, Frank, and Power.

Aside from the inflammatory conditions already mentioned, the biliary tract may be the site of syphilitic lesions, and of tumors, both benign and malignant.

BIBLIOGRAPHY.

Brewer, G. E.—Surgery of the Biliary Passages.
Surg. Gynec. and Obstet. 14:433; 513 (1912).

Brown, C. E.—Gall-Bladder Infection.
Yale Med. Journ. 18:205 (1911-12)

Campbell, J. L.—The Gall-Bladder.
Atlanta Journ. Rec. Med. 57:314 (1911-12).

Cheney, W. F.—Gall-Bladder Dyspepsia.
Interstate Med. Journ. 21:561 (1914).

Coleman J. E.—Gall-Tract Infection.
Illinois Med. Journ. 18:287 (1910).

Cooper, C. M.—Gall-Tract Disease.
Calif. State Journ. Med. 11:301; 313 (1913).

Cummins, S. L.—The Anti-Bactericidal Action of the Bile Salts.
Journ. Hyg. 11:373 (1911).

Davis, B. B.—Factors Hostile to Success in Gall-Blader Surgery.
Journ. Amer. Med. Assoc. 58:444 (1911).

Deaver, J. B.—Surgery of the Bile Ducts.
Amer. Journ. Med. Sci. 143:781 (1912).

Else, J. E.—The Mucous Glands of the Gall-Bladder.
Northwest Med., new ser. 7:12 (1915).

Erdmann, J. F.—Biliary Surgery.
Amer. Journ. Obstet. 70:815 (1914); Also in Med. Rec. 86:620 (1914).

Erdmann, J. F.—A Consideration of the Biliary Tract.
Internat. Journ. Surg. 22.289 (1909).

Fowley, R. H.—Surgical Aspects of Gall-Bladder Dyspepsia.
Archives Diagnosis. 6:133 (1913).

Frank, L.—Gall-Bladder Disease.
Amer. Med. new ser. 9:735 (1914).

Frank, L.—Gall-Bladder Infections.
Surg. Gynec. and Obstet. 20:360 (1915).

Fritz, W. W.—Diseases of Gall-Bladder and Biliary Ducts.
Amer. Journ. Neurophthy 1, No. 5:5 (1911).

Fuller, W.—Infection of the Gall-Bladder and Bile Tract.
Lancet-Clin. 106:632 (1911).

Holmes, B.—The Mucous Glands of the Bile Ducts and Gall-Bladder.
Lancet-Clin. 106:678 (1911).

Holmes, B.—Certain Diseases of the Biliary Tract.
Illinois Med. Journ. 21:725 (1912).

Keefe, J. W.—Surgery of the Gall-Bladder and Biliary Tract.
Providence Med. Journ. 15:186 (1914).

Lichty, J. A.—Relation of Disease of the Gall-Bladder and Biliary Ducts to the Gastric Functions.
Amer. Journ. Med. Sci. 141:72 (1911).

McArthur, L. L.—Bile-Tract Infections.
Colorado Med. 11:327 (1913).

MacCarty, W. C.—Pathology of the Gall-Bladder.
Ann. Surg. 51:651 (1910).

Menzies, J. A.—Secretion and Composition of Human Bile.
Biochem. Journ. 6:210 (1911-12).

Ritchie, H. P.—Physiology and Pathology of the Gall-Bladder in relation to its Removal.
Journ. Minn. Med. Assoc. 31:592 (1911).

Robson, A. W. Mayo—Diseases of the Gall-Bladder and Bile Ducts.
London, 3d ed., 1904.

Roger, H.—The Bile.
Universal Med. Rec. 3:289 (1913).

Rolleston, H. D.—Diseases of the Liver, Gall-Bladder and Bile Ducts.
London, 1912.

Kunyan, H. P.—Pathology of Gall-Bladder and Bile Tract.
Journal. Amer. Med. Assoc. 55:2293 (1910).
Ruth, C. E.—Common Errors in Gall-Tract Surgery.
Journ. Amer. Med. Assoc. 63:832 (1914).
Stewart, G. D.—Surgery of the Liver, Gall-Bladder and Biliary Passages.
In: Bryant and Buck American Practice of Surgery, 1911, 8:193-277.
Summers, J. E.—Some Modifications of Technic in the Surgery of the Gall-Bladder and Bile-Ducts.
Amer. Surg. 54:110 (1911).
Sutton, J. B.—Gall-Stones and Diseases of the Bile Ducts.
London, 1907.
Thomas, C. P.—Diseases of the Gall-Bladder and its Ducts.
Southern Calif. Pract. 26:73 (1911).
Whittemore, W.—Surgery of the Biliary Passages.
Boston Med. and Surg. Journ. 169:571 (1913).
Wood, W. C.—Indications for the Various Operations on the Gall-Bladder and the Biliary Passages.
Long Island Med. Journ. 4:251 (1910).

DISCUSSION ON DR. ROSS' PAPER

The Chairman.—The discussion is open. We should like to hear from some of the internes relative to the medical side of diseases of the gall bladder.

Dr. Ball.—I was interested in what Dr. Ross had to say relative to the diagnosis of gall stones by the use of the X-Ray. He put his statement very conservatively and correctly. The impression one might obtain from his statement, however, was that it was almost useless, or, at least, quite unsatisfactory to attempt a diagnosis by the use of the X-Ray. At a recent meeting of The American Roentgen Ray Society there was quite a discussion on the subject and the technique and the views expressed were definitely in its favor, when a proper technic is used. One man from Boston, who is very successful in finding gall stones, takes a set of plates at different times during the day or on successive days. He does not conclude from a few plates that the patient does not have gall stones. In one particular case I know of this man worked all one day taking plates of the gall bladder area, and only in his last plate, taken in the late afternoon, was he able to demonstrate a well-defined gall stone, though he had been suspicious they were there from the start. He had taken several plates without success, but in the continued effort he finally succeeded in getting a satisfactory plate. I wish to speak in behalf of the use of the X-Ray method as a means of determining whether gall stones are present or not. If you find them on one plate that is sufficient, but any one plate is not sufficient to say that there are no gall stones in that region. It requires an application of skill and knowledge of technique in order to ensure making a diagnosis of gall stones, provided they are of the cholesterin variety. If they contain much of the inorganic salt of calcium it is then comparatively easy, but when they are of the Cholesterin variety it requires a particularly careful technic and it must also be said that there are some few gall stones that never show.

Dr. C. S. Leach.—There is no more interesting or impressive section of general medicine, than the study, diagnosis, and treatment of the upper abdominal diseases. So closely are they allied, and to such an extent do the symptoms repeat, in the different varieties of inflammation of the group of organs in this comparatively small space, that, in order to discuss any one condition intelligently, one must, of necessity, touch them all, as a sort of self-defense, that is, to dispose of the ones outside the current subject.

Our Vice-President has covered his subject in a thorough and understandable way, and I will make no effort to tear down the complete edifice he has builded, nor in any sense to add to its beauty, but instead by emphasis and repetition, assist him to make his work lasting.

Mention of the biliary system carries us back to student days, when we learned the association of the number five with this interesting bit of anatomy. This feature we regarded in a jocular way, since it measurably helped us to memorize an otherwise difficult collection of facts. We have since learned that the system is not a joke.

There are over twenty pathological conditions which affect the biliary system, which being subdivided into classes and varieties aggregate about fifty. Diagnosis requires not only differentiation between each of these and the remaining forty-nine, but also between the entire fifty and all other abdominal diseases. Still there are families who insist that the physician make an accurate diagnosis on his first visit. It is fortunate for us as practitioners, that most of these varieties become important, only after the patient has passed out of our clientele, never to return.

I shall touch only two of the more important diseases, more important because more common, and because they require of the physician, skillfulness in diagnosis and sound judgment in treatment, if he would carry his patient over an attack which is dangerous to life, and accompanied by the severest pain mankind has to endure, viz.: Cholecystitis and gall-stone colic.

In the majority of these cases, with careful and thorough examination of the patient, diagnosis is not difficult, but on the other hand, I recall a case of inflammation, without stone, seen by several of the best physicians and surgeons of the state, in which a diagnosis was not made, the actual condition being finally revealed at autopsy.

Given a patient who is apparently in extreme pain, localized in the right hypochondrium but radiating into the back and upward toward shoulder or to tip of shoulder; tenderness on pressure over gall-bladder, with the characteristic catch in the breath upon deep inspiration, while the fingers of the observer are pressed in over the organ; if the muscles are not too tense, the discovery that liver and gall-bladder are enlarged; and the finding of Boas' tender spot which is apt to continue after tenderness over gall-bladder has disappeared, we then have a well established diagnosis of acute cholecystitis, with or without stone. Proof of stone may be had, if found, after washing feces through a sieve.

In my cases of cholecystitis there has been a varying degree of constipation, one, an inflammation without stone, having an apparently complete obstruction for nine days previous to operation. Several attacks have followed protracted drunks, these being mostly recurring cases.

INFANTILE PARALYSIS IN VERMONT

A Report of the Progress of Cases between January, 1915 and July, 1915

Robert W. Lovett, M.D.

and

Ernest G. Martin, M.D.
of Harvard University

Read at the Annual Meeting of the Vermont State Medical Society, Oct. 14, 1915.

In December, 1914, the State Board of Health of Vermont, through the generosity of an interested citizen of the state, was enabled to undertake the treatment of the cases of infantile paralysis occurring in the summer of 1914, and the matter of treatment was undertaken by one of the writers, the general aspects of the epidemic and the epidemiology being undertaken by the Rockefeller Institute of New York. Five trips were made to Vermont for the purpose of seeing and prescribing for cases. Clinics were held at Barton, Burlington, Montpelier, St. Albans and Rutland, the cases being assembled in these places for the purpose of examination. There applied for treatment at the clinics 235 cases, but there were a certain number of cases from other years, which cut down the number of the 1914 cases applying for treatment to 149.

In each of the cases an examination was made, and the muscles affected were marked on a chart as "Totally paralyzed," "partially paralyzed" or "Normal." The needs of the case were then formulated, braces were prescribed when it seemed necessary, certain minor operations were ad-

vised, and in cases where it seemed likely to be of use the parents were instructed in muscular exercises to be given to the patients for the development of partly affected muscles. Certain cases were not available for this treatment, because they were either too severely affected or too young, but in the majority of cases this treatment by muscular exercises was instituted, and the parents were urged to follow the treatment up.

Subsequently these 149 cases were analyzed as to various points of interest with relation to the relative frequency of muscles affected, and other points likely to be of practical importance, and these conclusions were published in the Journal of the American Medical Association, June 26, 1915.

In order to carry the work through, at the request of the Board a second series of clinics was held in Vermont by both of the writers in July, 1915, and cases were seen at the same places as those in January. On this trip there was used a method of testing the muscular strength of affected muscular groups, devised for the purpose, which had proved so useful in a preliminary trial at the Children's Hospital, Boston, in the spring and early summer of 1915 that it was deemed worth while to attempt in Vermont to secure more definite information than could be obtained by the usual methods of examination as to certain phenomena of the disease which it was believed would be of value in regard to problems of treatment. Muscle charts were also made on the second trip, but in contrast with the closer method of examination devised they proved to be of much less value than the figures from the new method.

One of the most important facts developed by the original examination of the Vermont cases was that in something more than a third of the 149 cases examined on the first trip partial paralysis was more common than total paralysis, a fact which apparently had not before been realized. Now the term "partial" paralysis indicates any condition from that of a muscle which seems perhaps a little less vigorous than normal to one which shows only a flicker of contraction on attempted voluntary movement. Yet neither of these muscles are normal nor wholly paralyzed.

With regard to the completely paralyzed muscles and the normal muscles there was no special difficulty in classification, but it became evident very early in the investigation that partially paralyzed muscles might gain very much in power without passing out of the class of partially paralyzed muscles, so that a comparison of the charts of the first and second trips in many cases showed the same markings, whereas very great increase in functional activity in many cases had occurred. It was evident that any closer study of importance must be made by means of the muscle testing method rather than by the muscle charts where the power of voluntary contractions was estimated by hand. The study of the progress of the cases by this method is now being carried on, and will be reported on later, and for the present it is possible to speak only of the gross phenomena manifested by the comparison of the records, examinations and charts of the two visits, reinforced by certain preliminary conclusions drawn from the method of muscle testing.

On the second trip, at the five clinics held, 145 cases were seen, examined and

prescribed for. Seven of these cases proved to be for affections other than infantile paralysis, reducing the number for analysis to 138. Three of these cases had occurred in the summer of 1915, 96 in the summer of 1914, and the remainder were distributed between previous years, reaching as far back as 1894. Of these 138 cases 62 were seen for the first time in July and 76 were seen at the time of the visit in the winter and in July also.

The following table shows the number of cases seen at the different clinics:

	Total Cases Seen in July	Cases Seen First Time	Cases Seen 2nd Time	Not Infantile
Montpelier	22	10	8	4
Burlington	48	22	24	2
St. Albans	30	9	20	1
Barton	21	7	14	0
Rutland	24	14	10	0
Total	145	62	76	7

On the July trip it was found that there had been improvement in every case which had previously been seen with four exceptions. One boy, slightly affected, was said by his parents to be no better, and three patients had not followed the treatment prescribed and had not improved. The improvement in general was partly spontaneous and partly due apparently to treatment. The treatment was muscle training carried out at home, with in most instances restriction of activity. It developed early in the first visit that fatigue was evidently an unfavorable factor, and that exercise and activity must in many instances be cut down.

Before proceeding to any conclusions it may be well to speak of the cases seen at the various clinics somewhat in detail.

Montpelier.—Of 22 cases seen four were not infantile paralysis, 10 were seen for the first time and eight for the second time. Of the eight cases seen for the second time two walked with braces who had not walked before, one walked without a crutch, one had practically recovered at the first visit and had remained well, and four showed very striking muscular improvement, as shown by comparison of the charts, several deltoids, forearms, gluteals and quadriceps muscles having changed either from total to partial paralysis or from partial paralysis to recovery.

Rutland.—Twenty-four cases were seen, 14 of them being seen for the first time in July. Of the 10 cases seen on both visits five were cases affected in 1911, and may be mentioned separately. Of the 1911 cases one case had been operated upon and was greatly improved. In one there was no note of function, although the parents described the case as better. In one there was no treatment and no improvement, and in two great improvement. Of cases affected in 1914, three showed great improvement, one was too young for an accurate record but was better, and one was better but there was no definite note of function.

Barton.—Twenty-one cases were seen, seven for the first time and 14 for the second time. These comprised some of the severest cases in the state, and improvement had occurred in all. Practical recovery had occurred in two, one could walk who could not walk before, several walked much better, and from a study of the charts it was found that there were many instances of total recovery of muscles partly paralyzed in the winter.

St. Albans.—There were seen 30 cases, nine new ones and 21 seen for a

second time. One case of gastrocnemius paralysis had had no treatment and had grown worse from neglect. High heels had been prescribed, which had not been used, and no exercises had been done. The gastrocnemius had stretched and had lost power. This was the only case of gastrocnemius paralysis seen in the state which had not improved under the treatment prescribed, which consisted in elevation of the heels, restricted use and exercises. Three cases were babies too young for exercise, and one case was too unruly for examination. All had improved somewhat. Two who could not walk in January could walk with a brace in July, 13 were much improved, in one the diagnosis was uncertain and the case was probably not infantile paralysis, and in one the notes were unsatisfactory.

Burlington.—Forty-eight cases were seen. Two cases were not infantile paralysis, 22 cases were seen for the first time and 24 for the second time. Of these 24 cases one had had no treatment and showed no improvement, one was too young for accurate data but had improved, one was unruly and could not be carefully examined. In the remaining 21 improvement from slight to very great was recorded. In individual muscles the following changes were noted between January and July.

	Partial Paralysis to Recovery	Total to Partial Paralysis
Deltoid	6	1
Pectoral	3	0
Trapezius	3	1
Triceps	1	0
Arm muscles	2	0
Forearm muscles	1	0
Back muscles	5	0
Abdominal muscles	5	1
Quadriceps	1	2
Hamstrings	2	0
Gastrocnemius	4	0

The two most striking cases in the Vermont series were to be found in the Burlington group. A man of 38, attacked in August, 1914, was helpless and brought to the clinic on a stretcher, and was with one exception the severest case seen in Vermont. In July he was earning his living by selling farm machinery in his wagon, taking a boy to help him in and out. He walked with one crutch with assistance also on one side, he was able to fish, and had been on a successful fishing trip during the summer. A girl of 18, affected in 1914, in January could barely walk alone. In July she walked with a slight limp. Eight important muscles had recovered under persistent exercise, and the improvement began a few days after starting on exercises, previous to which the patient's progress had been stationary.

In view of the facts developed on the second trip, the State Board of Health determined to pursue the treatment more accurately, it having evidently demonstrated that it was of use, and Miss J. B. Merrill stayed in Vermont from July until the end of September for the purpose of giving the treatment in various parts of the state to patients who were likely to be benefited by it. Two subsequent trips to Vermont were made by Dr. Martin for the purpose of testing the muscles of the cases under treatment, and the improvement recorded was so striking that the Board decided to have Miss Merrill make trips through the winter at intervals of two weeks to various parts of the state for the purpose

of seeing that the treatment was carried out, seeing the parents at frequent intervals, changing the exercises when necessary, and encouraging the parents to a steady pursuance of the treatment.

The advantage of having a quantitative test for muscular strength is that it eliminates personal opinion as to the progress of an individual case and formulates the matter in pounds and ounces, so that by a comparison of the records of the same cases at intervals it is possible to find out whether or not the child is gaining or losing. Although at present it is not possible to present the full data with regard to the results of these observations by the muscle test, it may be said that the cases analyzed so far show that the expectation of improvement in a given muscular group affected but not totally paralyzed by the disease under constant treatment of muscle training from an expert is greater than under supervised home exercises, and that this is more likely to help than home exercises prescribed but given without supervision. Untested affected muscles in these patients improve least, but even these show an improvement ratio of 1.9 to one, which latter is to be counted partly as spontaneous improvement, but it must be remembered that other muscles in the same case were being treated.

These cases were nearly all affected in 1914, and represent cases at the end of the first year. That spontaneous improvement is so marked at the end of a year is apparently a new point, and one of great importance to us in forming our prognosis. These facts may well give us courage to undertake a more vigorous treatment in old cases, knowing that at the end of a year spontaneous improvement is by no means at an end. Perhaps we may find that it extends much later than this when our observations have covered a longer time.

The possibility of improvement in muscles totally paralyzed at the end of one year was shown by observation with the muscle test.

These figures and these clinical conclusions would seem to indicate that the venture of the State Board of Health of Vermont in undertaking on a large scale the treatment of cases of infantile paralysis by modern methods had been successful. That the cases on the whole improved more than would have been expected from spontaneous improvement alone seemed evident. That very great improvement had resulted in certain cases was equally plain, and the fact that so few cases out of the large number treated had failed to improve is apparently encouraging. The cases on the whole were not what one would select as a class on which to demonstrate the efficacy of any treatment. In a measure the patients were the children of farmers living in the country, and often unable to receive much care from the mothers of large families. The parents have nevertheless been sufficiently interested in the treatment as a whole to give it an intelligent trial, with results which apparently have been beneficial.

The care of a large group of cases of infantile paralysis has apparently not been undertaken in this country before, and it presented many difficult problems, but the outcome seems to have justified the undertaking, and it is hoped that when the data of the muscle tests have been formulated some definite increase to our knowledge of infantile paralysis may have been obtained.

DISCUSSION

The President.—I am sure you all have enjoyed this paper. I greatly regret the absence of Dr. Stickney who was to open the discussion. I will call upon Dr. Ross.

Dr. E. H. Ross.—I regret more than you do the accident to Dr. Stickney because I am not competent to discuss this paper. I came to learn from Dr. Lovett, and I am sure I have done so. I have enjoyed his paper very much. I would simply like to mention two cases that have come under my notice recently in my home town. In one case the patient showed no paralysis until the morning of the third day, at least that I detected, but the disease progressed very rapidly; first in the lower limbs and terminated with paralysis of the diaphragm, and that occurred a little short of three days. Another case which began with a high fever showed paralysis in a different way, and the patient is recovering. Paralysis in the first instance appeared in the throat and face. There was difficulty in swallowing and a drooping of the right eyelid and paralysis of the right side of the face, and later on paralysis of the neck muscles of the left side, so that at this time he holds his head awry although he has made a very decided recovery in many respects, and it is only ten days since the case began. The paralysis of the eyelid has finally disappeared, and of the face. The muscles of the neck still show considerable paralysis. We have had three deaths out of five cases in St. Johnsbury this fall, and I think that all of them have been affected in the upper portion of the spinal cord, and in three of them there was paralysis of the diaphragm. I was pleased to hear what Dr. Lovett had to say about muscle training, and should like very much to ask him one question: Whether he would, in regard to this case I have spoken of, involving the neck muscles, immobilize the neck later on or whether he would keep the child in bed and in that way secure the necessary rest for the muscles affected?

Dr. W. H. Lane, Brattleboro.—We have had no cases of Poliomyelitis in Brattleboro for nearly a year. The last was that of a girl of a very ignorant family, single, nineteen, and three months pregnant. She had a very complete paralysis of the right arm if I remember correctly and the family was very much upset because of my diagnosis of Infantile Paralysis. However, this diagnosis was confirmed by the local Board of Health the next day and the card was placed. The family was then even more dissatisfied and relieved me of my services. The history of this case from last December until today has been one of treatment by the mother. I understand the girl has given birth to a baby and the paralysis which at that time was very nearly complete, under no special treatment excepting the rubbing in of some form of liniment by the mother, is now very much improved. This shows the occasional tendency toward recovery without treatment either medical, surgical, or mechanical.

One other case some three or four years ago which I am reminded of by the case of which Dr. Ross spoke was fatal because of paralysis of the diaphragm in less than forty-eight hours.

Another case was that of a little boy whose mother reported as a very slight illness. The only thing that called her attention to any illness whatsoever was the fact that when the child was playing and fell on the floor he was unable to arise as readily as usual. He could run and walk but it was that retarded getting up which attracted the mother's attention. I had strong suspicions at the time of Infantile Paralysis and I think they have since been confirmed although the child has made a very good recovery and completely regained the use of the affected muscles.

Dr. Sears.—Although Dr. Lovett's very excellent paper does not touch upon the clinical aspect of these cases I know you will pardon me if I call your attention to one form of this disease which has caused me considerable trouble in diagnosis. "Polio," as I tell my classes, is usually very easy of diagnosis after the paralysis comes on but very difficult before, but when we find a paralysis of the 7th nerve alone and with no general symptoms of "Polio," occurring during an epidemic. it is very difficult to say whether it is "Polio" or simple Bell's palsy. Bell's palsy in children is rare. About the time of late epidemic I saw cases of "Polio" in children in which the facial alone was paralyzed, the 6th escaping;

during the same period I saw three cases in adults which I called Bell's palsy, although one case I put under quarantine as a precautionary measure. The adults made complete recoveries but the children still show more or less paralysis of the face. Is there anything which will make our diagnosis more certain in this type of case?

Dr. Amoss.— It might be interesting to tell you that this community is not the only one that is suffering from this disease. They are having epidemics now in Rochester, in Erie, Pa., in Maryland, Virginia and Ohio. I was talking to Dr. Goler last week and he mentioned the low mortality in the Rochester epidemic. He had only one death in 62 cases. There is a marked contrast in the figures on the age basis. In this State there were 27 cases over 21 years of age, last year, while in the Rochester epidemic there was only one. Most of the cases in the Rochester epidemic were from eight months to three years, and very few over fourteen. The case, I believe, in Rochester that was over 21 was the one that ended with death; and I am under the impression that when this disease attacks adults it does greater damage than among children.

Of course you think that we ought long ago to have found some laboratory test whereby we would be able to differentiate this disease from other similar diseases and also whereby we would be able to treat it in the acute stage. But I should like to impress upon you that it it is a very difficult task. So far nobody has been able to detect in the serum of acute cases any immune reaction except a neutralizing action against the virus. We are looking to the laboratory side for this treatment, and all I can say is that in the serum from recovered cases there is something which is capable of neutralizing the virus. In a letter received from Dr. Netter of Paris he states he will be able to report a series of cases of poliomyelitis by injection of serum from recovered cases. They are going to try that in Rochester. But there are many things which have to be worked out before this method can be advised.

Dr. W. B. Cannon.—I was very much interested in the results of the work Dr. Lovett has reported. I should like to emphasize one point Dr. Lovett made, namely, that in this disease, which comes like "a bolt from the blue" and which we cannot prevent, the only thing we can do is to take care of the patient after the acute stage has passed. The great value of Dr. Martin's method has been the demonstration, in these Vermont cases, that with proper treatment we may have a great deal of hope of betterment, much greater than hitherto, even a year after the attack. The important matter now is that this study be carried through. We have learned to-day from the results Dr. Lovett has reported that certain methods of treatment are in a high degree promising. We ought to see how much further these benefits can be carried, and to what degree this method is capable of showing the value of various sorts of treatment.

Dr. Lovett.—In reply to Dr. Ross' question, I should think that nothing further would be necessary than fixation of the muscles.

MINUTES OF THE ONE HUNDRED AND SECOND ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY, HELD AT BURLINGTON, OCTOBER 14-15, 1915

Friday Afternoon Continued

Report of the House of Delegates

The delegates assembled in the Lecture Hall of the Medical College. Dr. Alan Davidson took the chair at 5 P. M., Thursday, Oct. 14, and the following proceedings were had:—

President Davidson.—"Gentlemen, if you will come to order we will proceed with the order of business. There seems to be a good deal of business to get through with and I will not detain you with any remarks, but will ask the secretary to call the roll."

The roll was called by counties, the following delegates responding:

Addison—Dr. Carroll, Dr. Howard.

Bennington—Dr. Liddle.

Caledonia—Dr. Ricker, Dr. Walsh, Dr. Cheney, Dr. Allen.

Chittenden—Dr. E. T. Brown, Dr. B. D. Adams, Dr. W. H. Mitchell, Dr. F. E. Clarke, Dr. D. A. Shea, Dr. L. H. Holcomb.

Franklin—Dr. Alan Davidson, Dr. C. S. Scofield.

Lamoille—

Orleans—Dr. J. F. Blanchard.

Rutland—Dr. C. B. Ross, C. H. Swift.

Washington—Dr. Wm. Lindsay.

Windham—Dr. F. L. Osgood, Dr. J. S. Hill, Dr. W. F. Hazelton.

Windsor—Dr. F. A. Edmunds.

Secretary Hamilton.—"In the list from Windsor County the name of Dr. J. A. Stevenson should be added; his name was given to me and he has a right to sit in this house."

Dr. Stevenson was seated.

On motion of Dr. Hill, the reading of the record of proceedings of the last meeting of the House of Delegates was dispensed with in view of the fact that the same is before the assembly in printed form.

Dr. Hamilton read the report of the Secretary of the Society and the same, on motion duly seconded, was accepted and adopted.

Dr. Ricker.—"There are some matters suggested in the report of the Secretary that perhaps we should take action upon; how is that, Dr. Hamilton?"

Dr. Hamilton.—"The only thing I have suggested is that the House of Delegates should take some action upon the matter of pro-rating the dues, so that members joining shortly before the annual meeting may pay dues for the remainder of the year, which is practically until March 31st, when the new roster is made up; making the dues say fifty per cent of the fixed dues."

President Davidson. — "Gentlemen, you have heard the secretary's report, and the matters therein suggested are now open for discussion."

Dr. J. S. Hill.—"I move that the following amendment to the by-laws be made:

By-Laws, Art. II, Section 7.—Any physician joining a component County Medical Society after the 30th of September of any year shall be entitled to all the privileges of this Society for the remainder of the year upon payment of such sums for the County Society as they shall vote and 50 per cent of the annual dues for the Vermont State Medical Society, provided he has never be-

fore been a member of a County Society in Vermont.

Seconded by Dr. Stevenson, and so ordered.

President Davidson.—"The resolution is adopted; what other matters are there that we should act upon in connection with the report of the Secretary?"

Secretary Hamilton.—"The next matter is the post-graduate work; I would like to hear that discussed if we can do it at this time."

President Davidson.—"The matter is open for discussion * * * perhaps Dr. Hamilton will give us his own views as to what is best to be done."

Secretary Hamilton.—"Dr. Townsend in his address to-morrow will speak along the line of this subject, and if it is possible it would be well to have a committee appointed, or have some officer of the society given authority to arrange with the secretaries of the county societies for post-graduate work, so that, for instance, Windham County might have a speaker from Franklin, and an interchange of speakers be made. I would be glad to have this House of Delegates authorize someone—either an official, or a special committee—to have charge of the making of arrangements and have the State Society take care of the financial end of it—the expenses. In the past year our clinics were meetings for the study of cancer and the cost was $129.00, and that was just to cover the necessary expenses; no charge was made for services. We can get men in that way here in Vermont, and be afforded a chance for post-graduate work and clinics."

Dr. J. S. Hill.—"If he will do it, why could we not authorize Dr. Hamilton, the secretary, to attend to it."

Dr. Hamilton.—"That would be all right to authorize the 'secretary —but 'Dr. Hamilton' may not be secretary next year."

Dr. J. S. Hill.—"Then why not have the secretary of the State Society arrange with the secretaries of the County Societies for clinics and post-graduate work."

Secretary Hamilton.—"That would be all right."

President Davidson.—"Would it be too much work for the secretary to attend to it?"

Secretary Hamilton.—"No, Mr. President, it would not be as much work as the cancer meetings we have had."

Dr. Stevenson.—"I move that the secretary of the State Society be authorized and empowered to arrange such meetings as are necessary to provide the several county societies with post-graduate work and clinics in the different counties."

Dr. Hill.—"I will second that motion."

President Davidson then put the motion and it was carried unanimously.

President Davidson.—"The next order of business is the Report of Committees; are there some reports to be made?"

Dr. Hamilton then read the report of the Publication Committee.

Secretary Hamilton.—"I would like to suggest in regard to the matter of a publication, it might be done in connection with some other society, so as to have a joint publication. That might bring the matter well within our means, and would not draw too heavily upon our funds so as to impoverish our treasury. It was suggested that we might publish a medical monthly and so have an organ here in the State with the privileges of the advertising of the

American Bureau. The Publication Committee or some other committee if authorized to use their judgment might do something in this direction for the society, with provision for a certain expenditure. Last year we used about $280.00 out of the $750.00 that was placed at our disposal."

Dr. W. G. Ricker.—"It seems to me we are too small a society to attempt the establishment of a regular monthly publication. Perhaps it might be better to issue a print occasionally throughout the year as occasion demands. The cost of our annual report was $284. If we have cancer meetings, or meetings to consider other subjects and have stenographic reports, and have them printed and bound and furnished to members of the society it would be a valuable addition to our books; I don't know how much that would cost."

Secretary Hamilton. — "The cost would be about $300.00."

Dr. Ricker.—"It seems to me it is better that we try and live within our means and perhaps not try to print a publication once a month, though some of the papers presented at our meetings are certainly worthy of being printed and furnished to members, and should be printed. If we have, as we have had, an efficient Publication Committee, I think it would be well to leave the entire matter in the hands of that committee, and it would be disposed of satisfactorily."

Secretary Hamilton.—"They could be issued like the *Bulletins of the State Board of Health* and then be bound up with our Proceedings. It might be called the Bulletin of the State Medical Society, and any communications from the Secretary or Treasurer could be put into that. The matter of expenditure, how much the Committee could use, should be provided for."

Dr. Ricker.—"The matter of expenditure, and how much we could afford to devote to printing, we should know more about if we hear the report of the Treasurer."

Dr. Stevenson.—"Before launching out into any expense at all we ought to know how we stand financially. I move that the pending matter be laid on the table until we hear the Treasurer's report."

President Davidson put the motion and it prevailed.

In the absence of the Treasurer, his report was read by the Secretary of the House of Delegates.

On motion of Dr. Hill, duly seconded, the report of the Treasurer was accepted and adopted.

Secretary Hamilton.—"Of course there will be more to be added to that amount by current dues."

Dr. Stevenson.—"What amount do you think would be available for the use of the Publication Committee?"

Secretary Hamilton.—"Well, last year we were appropriated $750.00. I do not think that amount would be needed. If $500 were appropriated probably the committee would not use it all, but I think five hundred dollars would be very liberal. In our expenditure last year we did not care to use so much that it might be necessary to dip into the Medico-Legal Fund."

A Member.—"Just what disposition is made of the dues?"

Secretary Hamilton.—"Of the dues the sum of $2.00 per year is placed to the Medico-Legal Fund, and $2.00 for the general fund of the treasury, for general expenses."

(Continued in March number).

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

James Madison Hamilton, M. D., Rutland, Sec'y.
Charles Francis Dalton, M. D., Burlington, Treas.
A. Stuart M. Chisholm, M. D., Bennington, Editor.

All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.

The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, February 1916.

EDITORIALS

THE HARRISON NARCOTIC LAW

The avowed and evident purpose of the Harrison Law is a beneficent one and has at once secured the hearty co-operation of physicians throughout the United States. That purpose is the control of the drug habit. It is a parallel and related effort to effect by federal legislation a wider reform than has up to the present time seemed possible in the control of the alcohol habit, which might well have been included in the provisions of the Harrison Law. The control of the sale and dispensing of opium and cocaine with their derivatives will lessen disease, diminish crime and promote the general welfare. This is a salutary end and one that is entirely sympathetic to the profession of medicine. To what extent it may be open to academic dispute, as coming under the head of sumptuary legislation, is a remote and perhaps fanciful contingency that may well be neglected.

But there are some things in the Harrison Narcotic Law that arouse suspicion even in those of us who are not easily or often suspicious. Two words we have to say: One about the tax and the other about the exemptions. Why should physicians pay a tax to help enforce the law? Registration in the Internal Revenue Collector's office or in the Treasury Department at Washington confers no possible benefit. The tax is not protective,—we do not need the protection of the federal government; it is not permissive,—it is prohibitive; it is not penal,—we recognize no offence in us. By no ingenuity of conjecture can we discover a reasonable or even defensible motive for its imposition. Moreover, why should the profession of medicine be picked out as the only body of citizens to be taxed? It seems like a very foolish attempt to introduce class-legislation,—foolish, because it is quite probable that if the question were once submitted to the scrutiny of the United States Supreme Court, it might prove to be as unconstitutional as it really seems. If the law were explicitly declared to be *An Act to Regulate the Practice of Medicine*, it would, however inefficient, at least wear an honest face, but in this muddle of legislative prejudice and ineptitude, the true and beneficent purpose of the law is obscured by the injustice of the tax and tainted by the in-

direction of its declared exemptions. Manufacturing industries might properly perhaps be taxed, but what would happen if the manufacturer were restricted by law and were than obliged to pay a tax on that part of his industry which was suppressed by the very law that imposed the tax? We are glad to help in any project to prevent the general sale of habit-forming drugs, but to compel us to pay an internal revenue tax is an absurdity that is not mitigated by exacting an amount that is within every one's ability to pay.

We have mentioned the exemptions. Let us look at them. The Law reads:

Act not to apply to certain preparations, etc.

SEC. 6. That the provisions of this Act shall not be construed to apply to the sale, distribution, giving away, dispensing, or possession of preparations and remedies which do not contain more than two grains of opium, or more than one-fourth of a grain of morphine, or more than one-eighth of a grain of heroin, or more than one grain of codeine, or any salt or derivative of any of them in one fluid ounce, or, if solid or semisolid preparation, in one avoirdupois ounce; or to liniments, ointments, or other preparations which are prepared for external use only, except liniments, ointments, and other preparations which contain cocaine or any of its salts or alpha or beta eucaine or any of their salts or any synthetic substitute for them: *Provided,* that such remedies and preparations are sold, distributed, given away, dispensed, or possessed as medicines and not for the purpose of evading the intentions and provisions of this Act. The provisions of this Act shall not apply to decocainized coca leaves or preparations made therefrom, or to other preparations of coca leaves which do not contain cocaine.

Conditions Imposed

Decocoainized Coca Leaves

This is the section on exemption as contained in the Law as it passed both houses of Congress, was approved December 17th, 1914, and went into effect on March 1st, 1915. On March 9th, 1915, the Treasury Department issued a "Synopsis of rulings on questions relating to the Narcotic Law"—"for the information of internal revenue officers and others." In this document (T. D. 2172) the subject of exemptions was defined and established and "remedies prepared under private formula" (i. e. formula not publicly given, i. e. secret formula). "Such as are usually carried in stock and dispensed without prescription," are specifically withdrawn from the operation of the law (p. 4). Here is the entire article:

Exemption of certain preparations.—The exemptions provided in section 6 of this law are held to apply only to United States Pharmacopœia standard preparations or to remedies prepared under private formula, such as are usually carried in stock by druggists and dispensed without prescriptions, and not to pseudo preparations or remedies prepared, prescribed, or sold on account of the narcotic drug contained therein.

This seems to sanction all sales of proprietary or patent medicines by druggists without any of the restrictions which are imposed on physicians' prescriptions. The patent medicine preparations are evidently privileged. T. D. No. 2213, under date of June 7th, 1915, further discriminates in favor of patent medicines by emphasizing the distinction between "prescriptions," which must conform strictly to the provisions of the law, and "preparations" or "remedies" which are carried in stock and may be dispensed by druggists *without a prescription.* So a patent medicine containing morphine may be obtained on demand in any quantity from a druggist and used without any restriction, while the physician is hampered with difficul-

ties. And yet, where have the drug-users been obtaining their morphine in the past, from the physician or from the druggist? Where then should the difficulties be made effective,—to the patent medicine manufacturers or to the profession of medicine? We hope that the Journal of the A. M. A., which represents the whole medical body, will consider this phase of the Harrison Narcotic Law. What influence is behind these exemptions?

Personally, we desire that our motive in bringing this matter to the attention of the profession may not be misunderstood to lie in our opposition to the purpose and intent of the Harrison Law, but to the tax on physicians and to the manifest discrimination in favor of patent medicines. It would be of interest to discover the motives that led the framers of the law to include in its operations these two details, and finally the question arises; What provision of the law enables the Secretary of the Treasury to limit or to extend its application?

THE FLY IN THE OINTMENT

Much legitimate humor has been exercised upon the old time doctor, who slipped his thermometer into the first orifice that was accessible, and whose principal reliance was upon Dover's Powder and Epsom Salts, as if, like the early Church, his only power was to bind and loose. We are told that he was always moderately, and often immoderately septic, and that nothing but an over-ruling providence kept him from spreading, as well as curing, disease. He wrote no prescriptions and his patients never knew what medicine he gave them. Nor did it much matter. For he was kindly, earnest, unselfish, devoted to his work. He was everybody's friend. Children loved him. His word was law even in things that he did not himself understand. No wedding was complete without him, and in sorrow he was the common comforter. In a septic age he upheld the finest moral ideals of his profession. But he is gone, having yielded the standard of medicine to cleaner, if not purer hands. Honor to him!

He has become as extinct as the dodo or the great auk, but his virtues remain a perennial heritage. The principles of preventive medicine which he preached to others he was himself constrained to adopt and exercise, and in the process he became gradually transformed into the modern physician. The earliest step in preventive medicine followed the general acceptance of Jenner's theory of smallpox, when it was discovered that the assent of the public was important to the protection of the public; but the immense development of universal public interest dates from the period of Pasteur's wonderful discoveries, which opened up a broad highway wherein since his time (he died only in 1895) preventive medicine has traveled with miraculous tread. The demand of the public for knowledge has always met with an eager response. Hygiene, sanitation, the theory of infection, the care of tuberculosis, backward children, the removal of adenoids, the physical basis of crime, — a full stream of knowledge, broad and deep, has flowed out from the profession of medicine into the public mind; while the decrease in death-rates, the control of infection, sanitary tenements, sewerage systems and improved conditions in shop and factories, attest the benefit that has come very largely through general knowledge and public

sanction. If a more spectacular and impressive illustration is needed, contemplate the published tables of statistics and learn what military surgery and the prevention of typhoid have done for the European armies. All these things were rendered possible, to say nothing of the Panama Canal, by preventive medicine acting through public channels. The cure of individual cases was quite a private matter. The prevention of disease is a public concern, and the practitioner of medicine has ceased to be a private individual and has become a public servant. This is one of the discoveries that even Christian Science has made since its cases have come to be reviewed by the Criminal Courts.

We have gained much by co-operation. The individual patients are as kindly and as carefully helped as they were before, but the health of the community has come to be considered paramount, and this is as it should be. And yet, as it was once considered necessary for the conduct of a well-ordered drama, that the villian be not omitted, so it has come to pass in preventive medicine that a small group of men and women, otherwise perhaps intelligent, whose motives we lack speech to characterize adequately, have chosen to place themselves athwart the progress of civilization and have become a menace to society. We are referring especially to the Anti-vaccination League.

This is a very direct and definite matter. The prevention of smallpox is not on trial but those who oppose it. Any one who would dispute the efficacy of vaccination would dispute the definition of a triangle. If the inductive philosophy ever proved anything it has proved that. There are people, we are told, who, trusting to an uncorrected perception, still believe that the sun travels round the earth. We do not try to confute them because it is not worth while. But this matter is worth while, for year after year the opponents of vaccination infest our state capitols and pester our legislators with a demand for what they call private judgment and individual liberty. This in fact occurred in this state in 1912 and prevailed, and the present condition of our vaccination laws in Vermont is a matter to be ashamed of.

"Individual liberty" is one of the bases of this movement. But the liberty of the individual ceases at the point when the rights of another begin. This is an axiom of law, which consists entirely of such restrictions of individual liberty in the interest of the community. Any individual liberty that becomes a menace to the community cannot be upheld except as an invitation to anarchy.

"That smallpox has become modified so far that it has lost its virulence," is another proposition upon which these retrograde reformers rest. So, we fondly hoped, typhus fever had lost its virulence, and the few cases that were observed and reported from New York by Dr. Brill three or four years ago were so mild that they were thought at first to constitute a new disease. Cleanliness and sanitation seemed to have overcome typhus and little attention was paid to it in recent books on the *Practice of Medicine*. But when once the safeguards of cleanliness and sanitation were removed, typhus reappeared with all its ancient virulence in Serbia and Mexico, and its ravages were as great as in former times. If it should happen that the safeguard of vaccination were removed from smallpox, the like serious

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condition would almost certainly confront us.

"But death has resulted from vaccination." Death has resulted from railway travel. Shall our railroads therefore be torn up? And when has death resulted from vaccination? There is no recorded instance where vaccination has caused death. When inoculation was used as a preventive for smallpox, there were about 3% of deaths, and inoculation was hailed with joy and enforced throughout christendom. Vaccination has caused no deaths at all. There is no percentage of mortality.

Death has followed the administration of vaccine virus when the virus was contaminated with tetanus bacilli, but it was the tetanus bacilli that caused death and not the vaccine virus. With vaccine virus properly prepared and vaccinated patients properly protected, there can be no tetanus and no death from tetanus, and the same is precisely true of any other disease germs.

But the objection may be made that this statement is not sufficiently precise, — that general assertions are invalid unless confirmed by definite facts. Well, these definite facts are at hand. The Public Health Service, through Dr. John F. Anderson of Washington, D. C., has been kind enough to supply them. Dr. Anderson has studied this subject since 1904. In a series of experiments on commercial vaccine sufficient to vaccinate 200,000 persons, no single instance disclosed the presence of tetanus bacilli. Out of 385,000 persons vaccinated in the United States Army, there occurred six cases, none of which had any connection with the vaccination, while among 200,000 persons vaccinated in the United States Navy, there were two cases of tetanus which were in no way due to vaccination. In fact, the occurrence of tetanus is known to be much larger than this in punctured or lacerated wounds which are accidentally received. The following conclusions of the Public Health Service are quite distinct and precise, — "1st, Vaccine virus on the market does not contain tetanus spores. 2nd, Tetanus following vaccination depends on accidental infection." (Journal A. M. A., July, 1915, p. 194.)

One experiences a little disgust in replying to the arguments of the anti-vaccinationists, because he feels that they are not honestly urged. Not the public welfare, but their own vanity moves them, and to that it is hopeless to reply. Grant them their contention — give them what they ask for — or assume them successful in the matter of vaccination and what will logically follow? For no one can be so foolish as to believe that they would cease their truly infernal activities when once this step was won. They would then proceed to deprive others of the individual freedom for which they had themselves contended and vaccination would be made a criminal act. Diphtheria antitoxin would have to go, and typhoid prophylaxis and quarantine and health boards and bacteriology and the whole system of preventive medicine. There might be a certain malicious satisfaction in giving these people a free hand for a decade or two, but the consequences would be too frightful to contemplate even in the form of an academic proposition. Similar reformers are making it the purpose of their life to obstruct the work of improving the condition of the inmates of penal institutions. They wish that the State should deprive the criminal not only of liberty but of hope, and condemn him to become a perpetual

criminal. Some penalty should doubtless be inflicted on the law-breaker, but he who destroys hope is a fiend and not a human being. Well, what is progress but hope in the process of becoming reality? The heart of mankind hopes for the day when infectious disease shall be extirpated. Preventive medicine, including vaccination for smallpox, is fulfilling that mission. Is it too severe, is it even severe enough to say that he who would destroy that hope is the enemy of mankind?

ETHER ONCE AGAIN

Many questions that the world would gladly see settled seem to recur periodically seeking a final adjudication and, not finding it, continue in a state of suspense until their fresh recurrence. Who wrote the *Imitation?* Who wrote the Junius letters? I hope somebody knows who invented the Edison lamp, and who discovered the principle of the Bell telephone, that these also may not vex our posterity with rival claims which may also be fraudulent ones. But some questions that we have thought long since comfortably settled,—which we have labeled and pigeonholed,—come up from time to time for a re-hearing. One especially has been revived in a recent* number of *Old Penn,* which seeks to contest again the question of the discovery of ether anaesthesia in the interest of Doctor Crawford W. Long of Georgia.

In the rotunda of the Georgia State Capitol at Atlanta, hangs a portrait of Doctor Long, with a tablet bearing the inscription,

*October, 1915.

CRAWFORD W. LONG, M.D.
Discoverer of Anaesthesia
Demonstrated on James M. Venables
by the Use of
Sulphuric Ether, at Jefferson, Jackson Co., Georgia
March 30, 1842.

On that date he removed a small growth from Venables' neck after etherizing him. The fact is not disputed. The above inscription was copied from the tablet by the Editor in March, 1913. It is of course no proof at all of the fact, but in Doctor Allen J. Smith's article in *Old Penn* there are photographed copies of letters, documents and accounts which place the fact beyond all dispute. Doctor Long's priority is authenticated and established. Moreover, it was not until October 16, 1846, over four and a half years afterward, that Doctor John C. Warren, at The Massachusetts General Hospital, operater on one Gilbert Abbot and removed a small growth from his neck, the ether being administered by W. T. G. Morton.

But Doctor Long seems never to have emerged from the experimental stage. During these four and a half years, we find that his operations under ether consisted of the removal of three wens, the amputation of one finger and the extraction of two teeth. He evidently did not perceive the far-reaching benefits of ether inhalation. A graduate of the University of Pennsylvania, it never occurred to him during all these years to send a sketch of his work to the university, but he limited the miracle to his immediate friends. Doctor Long was one of the links in a long chain. In 1799 Sir Humphrey Davy inhaled some nitrous oxide to relieve the pain of a

toothache,* and the next year published a reflection in *Researches Chemical and Philosophical,* "As nitrous oxide in its extensive operation seems capable of destroying physical pain, it may probably be used with advantage during surgical operations." In 1818, Faraday, Sir Humphrey's assistant, wrote in the *Quarterly Journal of Science and Arts,* "The inhalation of the vapor of sulphuric ether produces effects similar to those produced by nitrous oxide." Hypnotism, or mesmerism as it was then called, was used at times during the next two decades to abolish sensibility to pain for the purpose of surgical operations, and ether was neglected until the fourth decade of the nineteenth century. At first it was used merely as a pastime, to enjoy the exhilarating effect produced by small doses. Doctor Long so used it, being initiated into its use by a medical student named Wilhite, and there was perhaps no medical school in the United States—these were not as numerous between 1835 and 1842 as they have since become—where some of the students in their "larks" were not accustomed to inhale ether to the point of unconsciousness. Doctor Morrill Wyman of Cambridge, Massachusetts, in a letter to Doctor J. Collins Warren, says that in 1836 he and his fellows in the Harvard Medical School amused themselves by inhaling ether from a bottle until they were "motionless,"† but that to no one of them did it occur to test their sensibility to pain when in that state. To Doctor Long seems to belong the first effective proof of the anaesthetic property of ether. So much seems reasonably settled.

But as the discovery of ether anaesthesia cannot be awarded to any of Doctor Long's predecessors, so it must also be withheld from him. The real point to clear up is not, Who first used ether for sugical purposes? but, What constitutes a discovery? When in the middle of the eighteenth century Dolland found that by combining a plano-concave lens of flint glass with a double convex lens of crown glass, he could dispel the confusion caused by a color play in the field, he was recognized as the discoverer of the achromatic telescope, although a Mr. Hall had already ascertained the same fact. But Hall kept his telescope locked up in his study, while Dolland published his discovery abroad, and Dolland is the true discoverer. So Columbus and not Leif Erickson is the discoverer of America. Discovery then has nothing to do with mere priority of application. A discoverer is one who opens up to general observation the idea that moves him. The world was no better for Long's experiments. He was himself disheartened with the short period of insensibility to pain that could be induced by a single "dose," and ceased to prosecute his experiments. Perhaps his lack of confidence in his discovery can alone free his name from censure, in withholding from the world for some years the vast boon that lay neglected in his careless hands. It was when the great and final test, made in the Massachusetts General Hospital on October 16, 1846, was published to the world that the true discovery was made. On December 17 of the same year Liston performed an operation under ether at the University College Hospital in Lon-

*Nitrous Oxide was discovered by Priestly in 1776.

†"The Influence of Anaesthesia on the Surgery of the Nineteenth Century" by J. Collins Warren, M.D., LL.D., F.R.C.S. Privately printed, Boston, 1906.

don, and the Reign of Ether was established.

No one can have any interest in Morton, the dentist. It would be far preferable to give the credit to Doctor Long, if it could justly be done. Morton tried to keep his preparation a secret by masking the odor of ether with aromatic oils. Then he tried to have it patented. Secret it could not long remain, and patent it the United States Government wouldn't, and the last twenty years of his life he pestered Congress with petitions for a pension for his discovery. He was an unworthy discoverer but we are afraid the title may not be denied him.

"KIDNEY CURES" SEIZED

Preparations Containing High Percentage of Alcohol Regarded as not only Worthless but Harmful

Washington, D. C.—Action against several so-called "kidney cures" has recently been taken under the Food and Drugs Act by the United States Department of Agriculture. In one case the shippers of a preparation labeled as "A Sure Cure for Bladder and Kidney Trouble" were prosecuted on the charge of falsely and fraudulently misbranding the product. They pleaded guilty and were fined $25 and costs by the court. This particular kidney "cure" was found to contain over 41 per cent of alcohol. It was labeled "Old Jim Fields Phosphate Dill and Gin Mankind's Greatest Friend A Sure Cure for Bladder and Kidney Trouble It is also a Great Aid in Case of Urinary Trouble. Allenberg & Meister Sole Agents, Memphis, Tenn." An analysis of the product showed that it contained no material amount of either dill or phosphate.

In another case 48 bottles of "Stuart's Buchu and Juniper Compound," prepared by the Stuart Manufacturing Company, Atlanta, Georgia, were seized. The court issued a decree of condemnation, forfeiture, and destruction on the ground that the claims upon the label were misleading, false, and fraudulent. On this label the manufacturers recommended their product as a remedy for a great variety of kidney and bladder diseases and stated that the medicine contained 16 per cent of alcohol.

According to the medical experts of the Department, alcohol is a kidney irritant and is dangerous in many cases of kidney disease. For this reason many physicians advise their patients who suffer from any kind of kidney or bladder trouble to abstain from the use of alcohol even in moderate quantities. Some manufacturers of kidney medicines which contain considerable quantities of alcohol also advise their customers to abstain from all alcoholic drinks, showing in this way that they know the harmfulness of alcohol in Kidney diseases, even though they use it in their own preparations. It is the opinion of the medical experts of the Department that such so-called "kidney remedies" as those recently seized are not only worthless but actually harmful because of the amount of alcohol which they contain.

Secretary's Page

While the *Vermont Medical Monthly* was the offieial organ of this Society, reprints of the Transactions of the annual meetings were issued eaeh year.

No sueh volume will be published this year, but if the members will forward prepaid all of their numbers of Volume I., of VERMONT MEDICINE to the Chairman of the Publication Committee, during the month of January, 1917, these will be bound in eloth and returned without charge. Lost numbers will be replaeed at ten eents eaeh.

Numbers reeeived after the month of January will be bound at eost.

Some members have forwarded the subseription priee for VERMONT MEDICINE.

This Journal is yours, published for the Society by its Committee on Publieation and goes without expense to every member.

If for any reason, you fail to get your eopies, drop a eard to the Seeretary and the mailing list will be eorreeted, and missing eopies forwarded.

But if you have any friend to whom you wish this Journal sent, the subseription will be thankfully reeeived.

There is another way in whieh you ean help.

Write the advertisers and do business with them, if they have the goods, *and always mention* VERMONT MEDICINE.

Interest seems to be inereasing in the Post Graduate eourses.

Good rousing enthusiastie reeeptions should be given the men who prepare themselves and give their time, espeeially now when work is so pressing.

The following programs are arranged:

Addison, February 3d, Mr. Fenton; Mareh 2nd, Dr. MeSweeney.

Bennington, February 4th, Dr. Smith.

Caladonia, February, 8th, Dr. Beeeher.

Chittenden, February 24th, Mr. Fenton; Mareh 30th, Dr. Rieker.

Lamoille, February 24th, Dr. Tinkham: Mareh 28th, Dr. Dalton; April 25th, Dr. Gile, (Hanover, N. H.)

Rutland, February 21st, Dr. Beeeher: Mareh 14th, Dr. Ordway, (Albany, N. Y.); April 11th, Dr. Eltinge, (Albany, N. Y.)

Washington, Mareh 14th, Dr. Lund, (Boston, Mass.)

Further dates will be announeed.

Don't fail to write your critieism of VERMONT MEDICINE to the Committee.

Help us to make your Journal what you want.

The first meeting of the Exeeutive Committee was held in Burlington, January 17th, 1916 and the following local eommittee of arrangements appointed for the St. Johnsbury Meeting, Oetober 12th and 13th: Dr. F. E. Farmer, Chairman: Dr. W. J. Aldrieh and Dr. H. H. Miltimore, all of St. Johnsbury.

It was voted to devote Friday forenoon to elinies, medieal and non-operating surgieal.

President Ross and Dr. Ricker were named as a speeial eommittee to gather material for the elinies.

Progress in Medical Science

CANCER

Cancer of the breast, while holding second place among all cancers, has the distinction of being the form of cancer in which the general practitioner is called upon most often to make a probable diagnosis. One percent of all tumors of the breast occur in the male, 2% of which have been found to be malignant. Such findings confine cancer of the breast almost entirely to the female. About 80% of all tumors of the female breast are malignant. When a woman presents herself with a tumor in the breast she is most likely presenting an active or at best a potentially cancerous tumor. Especially is this true if the bunch is at all well defined without being particularly painful. Age should have little influence against the consideration of a bunch as being malignant when not very painful, even if found in a comparatively young woman. The frequency of cancer of the breast varies little as to whether the woman has been married or is single, or as to whether she has had children or not. Occupation seems to make little if any difference as to which side becomes involved.

A family history of cancer has been found in only 25% of all breast cancers. This per cent while not alarming emphasizes the necessity of always having such data as a part of each history. Improvement of cancer statistics depends most upon the alertness of the general practitioner to suspicion, every lump in a breast as being malignant. Accordingly a woman presenting herself with a tumor of the breast without a special cause for such a tumor, as mastitis, mechanical injury, etc., should be considered essentially as having a malignant tumor until it can be proven otherwise. Further, when tumors, appearing as the result of a supposed mastitis or injury, are unsuccessfully treated for a period of more than three or four weeks they should then be considered as probably malignant. One should not wait until the tumor becomes fixed to the chest wall or becomes adherent in any way to the superficial structures, as many supposed adeno-fibromata are in reality "mobile carconomata." The general practitioner finding a tumor of the breast which conforms to the above characteristics should refer the case to the surgeon at the earliest opportunity. It then becomes the surgeon's duty to determine accurately as to whether the tumor is actually malignant or benign.

As mentioned in last month's article this may be done in the so-called "two-step operation" or by the "frozen section" method, with the weight of opinion favoring the "frozen section." The surgeon should always be prepared, when having a frozen section made, to go on with a radical operation if the microscope shows malignant changes. Handley's "permeation theory," substantiated by careful pathological demonstrations, shows that the lymphatics radiating in every direction from a tumor of the breast, no matter how small, may contain cancer cells, from a few inches to as much as two feet away from the tumor. He has always found that serial section of fascia containing these lymphatics ultimately arrives at a place in the lymphatic channel free from

cancer cells. The question would naturally arise from such a statement as to why cancer does not metastisize more frequently than is clinically evident. In answer to such a query he further shows in his work that these lymphatic channels and glands filled with cancer cells, as a means of protecting the system against extension of the process, go through special degenerative changes with an accompanying destruction of the entire lymphatic system invaded together with all of the cancer cells contained within the lymphatic vessels and glands with only now and then a gland remaining in which the cancer cells are not fully destroyed. Such glands remain as potential metastatic tumors. Some of these never give further trouble, a certain number, however, if not especially treated, sooner or later become active metastatic growths which are then more or less early fatal, depending upon location,—distant or adjacent to vital structures. When the surgeon and general practitioner fully appreciate the importance of cancer cell permeation greater care will be taken in the manipulation of the breast at the time of inspection, and a wider field of operation will be included, and a finer dissection made. Further, the surgeon will not be content with his work alone as being able to affect a complete recovery, for he will readily appreciate the fact that it is next to impossible to reach all the tissue likely of invasion.

It is here that intensive X-ray therapy is proving most valuable. Fewer recurrences manifest themselves when surgical removal is combined with intensive irradiation of the field of operation, together with all outlying structures, than with surgical intervention only. In fact, the thorax, from the neck to a little below the costal arch, should be irradiated in order to inactivate every cancer cell invading the external or internal mammary lymphatics, as it is principally through these connecting channels that internal complications, as mediastinal gland enlargement, stomach and gall bladder involvement, are made possible.

X-ray not only plays an important part in the therapy of breast cancer but is also being looked to as a desirable adjunct in the diagnosis of complicating metastases. The X-ray is able to determine metastastic involvement of the stomach, gall bladder, and mediastinal gland enlargement. X-ray is being urged by prominent surgeons and roentgenologists to determine before operation as to whether a cancer of the breast has produced mediastinal, stomach, or gall bladder involvment. Any such involvment is a just reason for the surgeon's refusal to operate. When the surgeon will refuse to operate on hopeless cases he is in this way going to assist by his better results in bringing the earlier and consequently more hopeful cases to the operating table.

C. F. B.

TUBERCULOSIS NOTES

Artificial pneumothorax consists of filling one pleural cavity with nitrogen gas, thus allowing the lung on that side to collapse. Nitrogen can be obtained like oxygen in cylinders of different sizes, but if it be not available, air strained through cotton and washed through bichloride solution may be used. This treatment puts the lung at rest by collapsing it and stopping its expansion Every tuberculous lesion is curable in proportion to the degree of functional rest that can be imposed upon it. Collapsing the lung puts it at rest and gives it a chance to heal. Besides this the blood and lymph flow more slowly through the lung when it is collapsed

and therefore less poison is washed out of the lungs into the general system. Consequently the symptoms of toxemia, fever, rapid pulse, weakness, etc., are lessened.

The technique as generally used in America is based on the method of Forlanini.

A small hypodermic dose of morphine, gr. 1-16 to 1-8, is given a few minutes before puncture, especially at the first injection.

A ¼ to ½ per cent solution of novocain with adrenalin 1-10000, is employed for local anesthesia. It is injected with an ordinary hypodermic syringe, but the needle must be one inch long or even one and a quarter inches if the chest wall is very thick. One or two c. c. of the novocain solution suffices for a puncture. The skin is first anaesthetized and after a few minutes the needle is slowly passed into the pleural cavity the solution being gradually expelled both during its entrance and during its withdrawal that no part of the tract may be neglected. A few drops are also injected into the pleural cavity. A small incision is then made in the skin to admit the needle used for injecting the gas.

The point selected for puncture is between the anterior axillary line and the mid-scapular line in the fifth to eighth intercostal space, the fifth in front, the eighth in the back. A point is chosen where the respiratory sounds most closely approach normal. Thickened pleura and cavities are avoided. Nothing but actual trial will tell whether the lung is too adherent to collapse or not.

The apparatus needed consists of two bottles holding 2,000 c. c. each. The first is filled with a solution of bichloride of mercury, 1—10000, the second with nitrogen. These are connected by tubing so that the fluid in the first may siphon into the second, thus forcing the gas into the pleural cavity by hydrostatic pressure. The second, or nitrogen bottle, has a tube leading from it to the needle which is inserted into the pleural cavity. This tube also connects with a water manometer. Suitable valves are provided to control the flow of fluid from the first to the second bottle, and the flow of gas through the needle, as well as to make and break the connection with the manometer.

Local anesthesia and the skin incision being completed, the pneumothorax needle is pushed slowly through the chest wall. It must be held so that it cannot jump suddenly forward after puncturing a layer of fascia or the parietal pleura. When the point of the needle seems to have passed the parietal pleura, the trochar is withdrawn and the valve leading to the manometer is opened. If the point of the needle is in a free pleural space, the manometer will show a negative pressure of two to twenty centimeters with a fluctuation of several centimeters with the respiratory movements. If the manometer shows a plus pressure the point of the needle is probably in the lung tissue. If there is no change in the manometer the point of the needle is still in the muscles or in thickened pleura or possibly in a vein. One must never inject gas until the manometer shows a well marked negative reading with a fluctuation of at least two centimeters. When these conditions are fulfilled the valve between the two bottles is opened and the fluid allowed to now into the second bottle thus driving the nitrogen gas into the pleural cavity. With every 50 or 100 c. c. of gas injected a new reading of the manometer is taken. When the original negative reading has been lowered several centimeters or approaches neutral, or whenever the patient feels any pain or tension in the chest the injection should be stopped. As a rule 300 to 500 c. c. is enough gas for the first injection.

After completing the injection, the gas is turned off, the needle withdrawn and a simple aseptic dressing placed over the puncture.

Injections are repeated at first every two or three days, later once a week, increasing the interval gradually to four weeks or even longer. Care must be taken not to make the interval long enough for the gas to be absorbed for if this happens the pulmonary and parietal layers of the pleura will adhere and further treatment will be impossible.

Several dangers and complications attend this treatment.

Air embolus occurs rarely; more frequently in the early days of the procedure than now. There may be temporary unconsciousness, with or without convulsions or hemiplegia, the symptoms gradually passing off in a few days; or there may be almost in-

stant death. This accident is very unlikely provided gas is never injected when the manometer fails to show a marked negative pressure with a fluctuation of two or three centimeters or more.

Pleural shock occurs occasionally with pallor, vertigo, faintness, rapid and weak pulse, spasm of the glottis or of the chest muscles, and rarely with cardiac paralysis. To avoid this local anesthesia should be complete, and the gas should be warmed by passing a coil of the tubing through a dish of hot water or by other means. High positive pressure should be avoided. A small hypodermic injection of morphine, ⅛ grain or less, seems to lessen the chance of shock, while a larger dose has been said to favor it.

Subcutaneous emphysema following the injection is not serious and passes off in a few days.

Puncturing the lung generally has no bad effect beyond a little bloody sputum.

All the collapse of a lung that is possible may frequently be obtained without raising the intrapleural pressure above neutral. Now and then, however, it is necessary to inject gas enough to produce a manometric reading of several centimeters positive pressure in order to pull the lung away from the chest wall to which it is adherent. This may produce severe pain, or pleural shock, or the lung tissue may tear if the adhesions do not stretch. This will produce a natural pneumothorax, possibly with hemorrhage. Later we may find a pyopneumothorax which is usually fatal. An attempt to stretch or break adhesions by positive pressure while necessary at times, should only be undertaken after careful consideration of these dangers.

Pleural effusion into the injected pleural space sufficient to be recognized by physical examination, occurs in 10 to 15 per cent of cases, while a slight effusion recognizable by the X-ray occurs in over one-third of cases. This exudate occurs most often after the treatment has been employed for several months. Many cases occur without apparent reason. If the fluid produces symptoms of pressure it should be withdrawn and enough gas injected to maintain a proper degree of pulmonary collapse. If the fluid produces no trouble it is better to leave it. If it becomes purulent it should be withdrawn and replaced with gas, or drainage may be needed. If an X-ray is available we keep watch to see that the lung is not forced up by the fluid so that it may become adherent to the chest wall at the top. Such adhesions gradually extend and may finally interfere seriously with the treatment. If such adhesion is threatened the fluid should be replaced with gas. Pleural effusion is but rarely dangerous.

This form of treatment is suitable for all cases of one-sided pulmonary tuberculosis that do not improve satisfactorily under the usual treatment, rest, fresh air and food. It has not been used in cases that are doing well. If there is bilateral disease, the lesion in the uncompressed lung is liable to become more active if it is already extensive, if it is quite active, or if it is a basal lesion, such cases are not suitable for pneumothorax. A small inactive lesion at the upper part of the uncompressed lung is not a contra-indication. Such lesions often improve after the other lung is compressed.

Artificial pneumothorax is most useful in advanced disease of one lung with cavity formation. Recent cases give a better chance than those of long standing because firm adhesions are less frequent. In old cases we often get marked relief of symptoms even if we are unable to secure more than a partial collapse of the lung.

Benefit is roughly in proportion to the degree of collapse obtainable. A lung that is extensively fibrosed, or markedly consolidated and caseous, or one that is extensively adherent to the chestwall or diaphragm does not collapse well. In such cases partial collapse may greatly lower the temperature and greatly lessen the cough and sputum. Some improvement in the general condition may also result. For permanent benefit a total or nearly total collapse of the lung is needed.

Serious heart disease is a contra-indication. Tuberculous disease of the intestines or kidneys is not a bar to this treatment, but it is a question whether the treatment is worth while in such cases. Laryngeal tuberculosis often heals after compression of the diseased lung.

If the disease in the uncollapsed lung be-

comes more active during treatment part of the gas should be withdrawn from the other side and further injections suspended. Sometimes the activity in the uncompressed lung subsides and treatment may be cautiously continued. A few cases of partial compression of both lungs with good results have been reported.

All cases of artificial pneumothorax should receive frequent X-ray examinations if possible. The X-ray gives us an exact knowledge of the degree of collapse and the extent of adhesions that cannot be obtained in any other way.

Artificial pneumothorax should be continued at least a year, often two or three, and sometimes indefinitely. Evidence of reviving activity in the compressed lung calls for re-injection.

When the injections of gas are stopped the lung expands as the gas in the pleural cavity is absorbed. When expansion is complete adhesion takes place between the lung and the chestwall. The re-establishment of pneumothorax is then impossible. Therefore, complete re-expansion should not be permitted until there is good reason to believe that the tuberculous process has definitely healed.

The average results, according to figures compiled by Sachs are about 12% permanent cures or arrests, with 29% of palliative effect more or less durable. In about 25% of cases no free pleural space could be found and no collapse of the lung could be produced.

These results are quite remarkable in view of the fact that artificial pneumothorax has been applied only to cases that gave very little promise of improvement through other means.

H. S. G.

News Notes

Dr. Charles A. Cramton of St. Johnsbury has been elected a director of the Passumpsic Savings Bank in that village.

* * *

Dr. J. H. Higgins recently went from Thetford to Cape Cod, Mass., to resume practice. His family expect to remain in Thetford until next June.

* * *

Thirty-nine years in practice in Bethel, Dr. R. M. Chase recently removed to the Bank block from the Blossom block where he had been for thirty years, ever since the building was erected. Dr. Chase is a dentist and a practicing physician.

* * *

Driving a stake in the snow in the garden at his home in Woodstock, Dr. G. G. Kelley fastened to it an ear of corn. Soon eight pheasants had gathered there and begun to eat the corn. One of the birds was pure white. Dr. Kelley keeps the supply of corn good and the birds come daily to eat.

* * *

Drs. H. C. Tinkham, B. H. Stone and C. F. Dalton of Burlington and F. T. Kidder of Woodstock were in Chicago early this month attending the Council of Medical Education and Public Health of the American Medical Association which was held at the Congress Hotel in that city the 7th and 8th insts. Drs. Tinkham and Stone represented the College of Medicine of the University of Vermont and Drs. Dalton and Kidder, the Vermont State board of health.

* * *

Dr. James W. Gregg of Brattleboro died at his home, February 2nd. Dr. Gregg was a life member of this society, elected by the Windham County Medical Society. He was born in Scotland, March 20, 1843.

He received his preliminary education at Newbury Seminary and his medical diploma from Dartmouth College in 1866.

He previously practiced in Ryegate and Corinth, Vt.

RUTLAND COUNTY NOTES

Dr. Edmund M. Pond, of Rutland, has recovered from an extended illness and has resumed his practice. Dr. Pond and family recently returned from a cruise to the West Indies.

* * *

Dr. A. H. Bellerose, Rutland, has been appointed Censor for the Rutland County Medical and Surgical Society vice Dr. M. R. Crain, deceased.

* * *

The regular monthly meeting of the Rutland Clinical Club will be held at the Rutland Hospital, Tuesday, February 29th, at 3:30 P. M. Program will be announced later.

* * *

Physicians who have interesting cases they would like to present at Dr. Beecher's Medical Clinic at the Rutland Hospital, Monday, February 21st, at 11:00 A. M., will please notify the Secretary, Dr. F. H. Gebhardt, Rutland, a day or two before. A brief history should accompany each case.

* * *

Dr. A. H. Mountford, Rutland, and Dr. D. C. Pierce, Ludlow, were recently elected to membership in the Rutland County Society.

A public lecture on "Health Questions" by Dr. S. Dana Hubbard of the Department of Health New York City, was held at Assembly Hall, Rutland, Tuesday Evening, February 8th at 8 o'clock. The lecture was illustrated by lantern slides.

F. H. G.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 3 $1.00 per Annum

Rutland, Vermont, March, 1916.

Original Papers

A NEW CONCEPT OF DISEASES HAVING EMOTIONAL ELEMENTS

By W. B. Cannon, M.D., Boston, Mass.

Being The Oration in Medicine, delivered before The Vermont State Medical Society Oct. 14, 1915, at Burlington, Vt.

During the past few years a series of investigations has been carried on in the Physiological Laboratory of the Harvard Medical School, with the object of securing further insight into bodily changes accompanying pain and the major emotions. This work was the outgrowth of an interest in the checking effect of pain and emotional excitement on digestive processes. The disturbances of digestion attending these affective states may considerably outlast the period of obvious excitement. What might be the occasion for the continuance of emotional disturbances in the body so long after the object which produced the emotion has disappeared?

A suggestion that seemed reasonable was that the state of excitement was continued by secretion of the adrenal glands, small bodies lying above the kidneys. These small bodies pour into the blood-stream a substance (adrenin, adrenalin, epinephrin) which exerts on structures supplied with sympathetic nerves (the nerves which become active in strong emotions) the same effects that are produced by impulses passing along those nerves. Thus the injection of adrenin, even in exceedingly minute amounts, will cause dilation of the pupils, erection of hairs, checking of the digestive processes, and other well-known consequences of sympathetic stimulation. But these glands are themselves stimulated to secretion by nerve impulses passing out by sympathetic courses. It might be, therefore, that the bodily changes accompanying emotional excitement are produced initially by nerve impulses; that these impulses also rouse secretion of the adrenal glands, and that the substance secreted and sent circulating in the blood continues by chemical influences the changes nervously initiated.

Structures supplied by sympathetic nerves are affected in the characteristic manner, although separated from those nerves, or removed from the body. By using as an indicator an isolated strip of intestinal muscle, sensitive to adrenin in dilutions 1:20,000,000 parts, we were able to show that when a dog barks at

a cat, and the cat reacts by signs of terror or by a raging counter attack, the cat's blood, taken near the opening of veins leading from the adrenal glands, shows the presence of increased adrenal secretion. Furthermore, stimulation in an anaesthetized animal of sensory nerves, which, if stimulated in the normal animal would cause pain, likewise evoked an increased secretion from the adrenal glands. Bodily conditions attended by pain, therefore, and by such major emotions as fear and rage, result in the discharge of a substance which can cause continued excitation of organs supplied by the sympathetic system.

Certain remarkable effects of injecting adrenin (epinephrin or adrenalin) have for many years been known. For example, it will release sugar from storage in the liver and bring it into the blood to such an extent that the sugar may appear in the urine (glycosuria). It will drive the blood from the abdominal organs into the heart, lungs, central nervous system, and the limbs. It seems to act as an antidote to muscular fatigue. And it renders more rapid the coagulation of blood. The question early arose in our work, does the adrenal secretion poured out in pain and emotional excitement likewise produce these effects?

Emotional excitement and "painful" stimulation are accompanied by glycosuria. If a caged cat is frightened or made angry by a barking dog, it is likely to have glycosuria. Students after a hard examination, and football players after a thrilling contest also have, in many instances, glycosuria. The mere handling of a rabbit may nearly triple the sugar content of its blood.

As a muscle is fatigued, the strength of stimulation needed to make it contract must be increased, i. e., the threshold of irritability rises. It may rise as much as 600 per cent, but the average increase is approximately 200 per cent. If the fatigued muscle is allowed to rest, the former irritability is gradually regained, though two hours may pass before the recovery is complete. If a small dose of adrenin is injected intravenously, or the adrenal glands are stimulated to secrete, the former irritability of the fatigued muscle may be recovered within three minutes. In this way adrenal secretion may largely restore efficiency after fatigue.

Fear and anger—as well as worry and distress—are attended, as already stated, by cessation of the contractions of the stomach and intestines. In these mental states also the secretion of gastric juice is reduced or temporarily abolished. Adrenin injected into the body has the same effect. Besides checking the digestive functions, adrenin drives forth the blood which during digestive activity floods the abdominal viscera. This blood flows all the more rapidly and abundantly through the heart, the lungs, the central nervous system, and the limbs.

If adrenin is injected in very minute amounts into the blood, the time which intervenes between removal of blood from the vessels and its clotting is greatly reduced. The same hastening of coagulation is observed if the nerves to the adrenal glands are excited, or a sensory nerve is stimulated, or if an animal is roused to fear or anger. The clotting time, which, by the method used, was usually four or five minutes, was in some instances reduced to half a minute.

These profound effects of pain and

fear and rage are not in the slightest degree directly subject to voluntary action. They are rather of the nature of reflexes, for they appear promptly and result from impulses which traverse pathways already prepared in the nervous organization of the individual. Since the effects are reflex in character, and since reflexes are responses commonly useful to the body, it is pertinent to enquire regarding the utility of the changes above described.

The clue which gives these responses significance is found in considering the conditions which would accompany fear or great anger or pain. McDougall has pointed out the relation between these affective states and certain instincts. Thus, fear is associated with the instinct to run, anger with the instinct to fight. These emotions in wild life would be roused in the presence of prey or the enemy—a situation that would not unnaturally involve both the pursuer and the pursued in a desperate run or a fight. In case of combat, pain would add to the stimulus of the emotion, and thus there might ensue a supreme and prolonged struggle.

Under such circumstances the sugar set free from the liver and circulated in the blood would be serviceable for the laboring muscles, for sugar is known to be the elective source of muscular energy. The adrenal secretion, by abolishing the effects of fatigue, would place the muscles unqualifiedly at the disposal of the nervous system. The shifting of the blood from the less insistent viscera of the abdomen to the organs of utmost value in critical physical struggle—the heart, lungs, limbs and nervous system—would be of the greatest service in assuring efficient action of these organs. And if in the combat the vessels are injured, prompt clotting of the blood might help to prevent dangerous bleeding.

The emotional reactions above described may each be interpreted, therefore, as making the organism more efficient in the struggle which fear or rage or pain may involve. And that organism which, with the aid of adrenal secretion, best mobilizes its sugar, lessens its muscular fatigue, sends its blood to the vitally important organs, and provides against serious haemorrhage, will stand the best chance of surviving in the struggle for existence.

The questions now arose, Why do not these disturbances occur in normal daily life? and, why in some persons do they occur, at least in certain parts of the sympathetic system, in the course of routine existence? The idea suggested itself that the reason the viscera are not commonly disturbed is because a high threshold of stimulation naturally prevails in the nerve cells of the sympathetic system, requiring a considerable degree of excitation in the central nervous system to bring these cells into activity. But on the basis of what is known about the establishment of habits we may assume that repeated emotional experiences might "wear pathways" in the courses which impulses take in emotional states. Thus the natural high threshold would be worn down, and then even slight excitement in the central nervous system might frequently affect parts which in normal individuals are only occasionally affected. Emotional dyspepsia and emotional disarrangements of the heart rate, for example, might in this manner be accounted for.

In order to test the effect of repeated stimulation of an area of the sympathetic distribution the anterior root of

the right phrenic nerve was joined (in the cat) with the right cervical sympathetic cord. Thus after regeneration had occurred, there was delivered to nerve cells in the superior cervical ganglion a volley of impulses every time the animal breathed. The operations were performed early in May, 1914. In October, 1914, four of six animals were still alive. All had peculiar symptoms. There was marked increase in the heart rate—the average heart rate in 36 observations on normal cats was 165, in 30 observations on these animals it was 222. Though fed like normal animals they had loose movements of the bowels. They suffered from falling of the hair from the neck and back, and they acted as if afflicted with pruritus of the head and toes. They were unusually excitable, as indicated by rushing away when taken in hand or petted. A study of the basal metabolism revealed that the average heat loss per kilo per 24 hours in normal adult cats is 44 calories; in three of the four experimental animals it was 66 calories, and in one (in all ways the most profoundly altered animal) it was 112 calories—an increase over the normal of more than 150 per cent. This animal, after very rapid loss of weight, has died. At autopsy the adrenal glands were found nearly three times the average weight. The metabolism of another of the three gradually rose—77, 87, 98, 109, 103 calories—with corresponding loss of weight, and on death of this animal the adrenals were also found enlarged. In dim light the pupil in these animals was larger on the operated side, and in one of them exopthalmos and oscillations in the size of the pupil corresponding with respiration developed on that side. These symptoms are, in the main, characteristic of exophthalmic goiter, as seen in man. Removal of the thyroid gland on the stimulated side, in one instance, brought the increased metabolism promptly down to the normal level.

The observations on these animals is preliminary to a more extensive study of the subject. The method of using the phrenic as a source of stimuli is now being applied not only to the thyroid gland but also to other organs innervated by the sympathetic system.

DISCUSSION ON DR. CANNON'S PAPER

Dr. Ricker.—The President said that the discussion should be more interesting than the paper, but I think we shall have to postpone that arrangement until later. It seems to me as if Dr. Cannon in his paper was opening up an immense field of interest. When I was beginning my medical studies I supposed that nervousness, or nervous prostration, or neurasthenia, or whatever term you choose to use, was fairly common. After a moderate education I learned that this and that and the other condition of pain was explained by organic disease. There was nothing like neurasthenia. After a few years of practice and experience, I came to believe that some conditions were not explained by organic disease, and that after all here and there, there might be a case of neurasthenia. Now then, the Doctor has given us here some positive experiments showing the effect of emotions upon certain glands, and through them upon the body. Of course the discussion of emotion is a great big subject, just what emotion is, whether it is some development of memory complex received through the five avenues of the soul, or whether it is an inborn characteristic. But leaving that aside, the emotions of which the Doctor has given us such satisfactory proof are not the only emotions we suffer from, and the field of speculative openings that are ahead of us as internes, seem to be immense; the effect of environment, the effect of external influence, acting through the mind upon the body, is after all perhaps, as we come to know more about them, to play a greater part

in our treatment. We have all had to treat cases of simple lack of vitality. Was it because the patient's central nervous system did not liberate emotions or impulses enough to stimulate the liver? Was it possible that something in their early training was not enough to leave behind sufficient memory complexes to give rise to proper emotions? And is it not possible that in the future field of medical research that sociology—social environment—in other words, happiness and unhappiness may come to be a part of the function of the physician, and that pure psychology, psycho-physiology and psycho-pathology, will come to have a particular place in the medical curriculum? And also become an important part of the physician's work instead of it being left almost entirely, as it now is, to a certain cult who pretend to treat the human body. (Applause.)

The Chairman.—After hearing Dr. Ricker's the Chair is not so sure he made a mistake.

Dr. Wasson.—I would like to call Dr. Cannon's attention to one thing in order to elucidate a bit more along the line of emotion. Do the changes which he describes as taking place in the glands which furnish internal secretions in response to states of anger and fear, arise through the direct influence of the emotions themselves upon the sympathetic system and glands, or rather may it not be a part of a complex response, an instinctive adaptation to a situation? In other words, may not the complex of sensations which arise from the motor adjustment of the individual to a certain situation, along with the changes which arise in glands and other parts of the body as reflexes secondary to these primary sensations really constitute the emotion. For instance, we do not cry because we feel badly, but we feel badly because we cry.

Dr. Melville —I spent a few days at the Lake side Hospital at Cleveland, Ohio, this summer shortly after Crile came back from France and had an excellent opportunity to see clinical demonstrations of his anoci-association.

Nervous patients are not told when their operation is to take place, but are allowed to smell aromatic and volatile oils every day and when the morning of the operation comes around, oxygen and nitrous oxide gases are substituted for the pleasant smelling oils and they are thus brought to operation without pre-operative worry.

Then 1 per cent novocain is injected into the line of the proposed incision, the muscle sheaths, aponeuroses, peritoneum and in fact wherever the operation extends is injected with large quantities of one-half of one per cent quinine and urea hydrochloride as the surgeon goes along, blocking all the site of operation from the brain not only for the time of operation but as long as the action of the urea and quinine hydrochloride acts which is on an average two weeks. Thus the patient suffers no after-pains from gas or from any sensitive nerves about the seat of operation.

Thus also no noxious or hurtful influences are allowed to get to the brain and sepsis from these methods is practically unknown and the abdominal walls are almost cadaveric in their laxness, making the usual manipulations much simpler.

Quick work, clean dissection and a minimum handling of the tissues, combined with a marvellous technique, disturbs the brain so little, that no shock is experienced by his operative cases.

Crile teaches that loss of blood, fear of operation, rough handling of the intestines are the primary factors of shock.

On the other hand the Mayos patients know for several days beforehand just when they are to be operated, walk into the operating-room, and climb onto the table, view with satisfaction the painstaking efforts toward asepsis taken by nurses and surgeons and then fall into a blissful ether sleep, secure and content that they are guarded by all the discoveries of modern science.

The strange thing about the matter is that these patients have no shock either, but may be seen the same afternoon taking their toast and tea as if nothing serious had happened to them.

The only explanation of these seemingly diametrically opposed views is that any method in the hands of the master works well.

Dr. Sears.—I would like to ask one question: Has Dr. Cannon been able to distinctly demonstrate by actual post-mortem examinations a structural change in nerve cells in an animal to indicate that it died of fright or anger?

Dr. McSweeney.—I would like to ask a question. In your experiments what result did fright have upon these animals in respect to their thyroid glands? I have had two cases this last year where Graves disease was apparently caused by severe fright. I operated on both. Within two or three years patients have complained that the enlarged thyroid caused tonsillitis.

Dr. Cannon.—The question raised by Dr. Wasson was whether emotion is the result of changes that take place in the body, or whether the bodily changes result from our feeling. The former view was expressed by James, who said, "We are sad because we weep, and are afraid because we run." In other words, the quality of the emotional experience is a reverberation of the changes which take place in the viscera as the result of the commotion when the emotion-producing object is before us. It seems to me that the observations I have reported are against that theory. Here we have two emotions, fear and rage. They are, as we can all testify, strikingly different. We all know that the emotion of fear is all-the-world distinct from the emotion of anger. And yet these observations show that the same visceral changes occur in the two,—the result is the same. Why these should be the same we can understand on this adaptive theory. The changes are adapted for struggle. The animal that is afraid and runs has to struggle as much as the animal that has aggressive feeling and pursues. It is hard to see how we can have the two subjective experiences of fear and anger so different, on James-Lange theory, if the changes are dependent on the same bodily disturbances. I would therefore say that these observations are against the view that the quality of feeling is dependant upon the sensations arising from the viscera.

On the question of Dr. Lang's as to the relation of Crile's and my work, I may say that we have taken different points of view. Dr. Crile has particularly insisted on the harmful nature of fear. In my own work, which has been directed towards an understanding of the utility of these changes, I have been led to the conclusion that they are obviously useful if there is *something to be done, or if something is done.* On the other hand if we experience a great emotion and dissipate it, we have discharged adrenin, liberated sugar and disturbed the alimentary canal without any use for these changes. It is quite possible then that harmful results may arise. I do not like to speculate on this matter, but it is interesting that injection of adrenin into rabbits has produced arterio-schlerosis.

The appearance of nerve cells after great emotion has been referred to. Dr. Crile has declared that animals subjected to fear show changes in the nerve cells post-mortem. These observations, I may say, are subject to a great deal of personal equation, and interpretation depends largely on emphasis on this or that element in biological preparations.

I wish to thank you for your attention; I have enjoyed being here very much. (Applause.)

FIRST AID TO THE UNINJURED

E. J. Melville, M.D., St. Albans, Vt.

The sanctity of human life is absolute, and every right-minded physician condemns any agency which hazards that life and yet we obstetricians have been criminally culpable in our neglect of the new-born baby.

Asepsis has, long since, ceased to be a theory, and all of us, no matter how far-removed from modern hospitals his field of work may be, is doing his best to render sterile that which touches the genital canal of the parturient.

We have been taught when pelvic or mammary sepsis develops in the mother to hold ourselves responsible; thus in self-defence most of us have been practicing asepsis and antisepsis in her regard, but have we been as diligent in preventing infection in the baby?

How many times have you stood with your hand on the contracting uterus and watched for signs of haemorrhage or eclampsia, and deemed that you were doing your whole duty?

The baby in the meantime—whose cord has been cut with the scissors that hung beneath the clock and tied with a piece of twine—has been handed over to the nurse and is being further insulted by having the funis dressed with an old rag and to cap the climax, has been left with nothing to prevent a hernial protrusion at the umbilicus, except a haphazard belly-band.

Brothers, let us rise out of our preaseptic apathy regarding the newly-born infant and do nothing to his open wound that we would not allow done to an open wound upon our own bodies.

Let us cut his cord with scissors that have been boiled, tie it with a sterile ligature, keep our fingers out of his incision and then cover it with a sterile dressing, kept in place by a firm pad and a smooth bandage.

If we have the slightest suspicion of Neisserian infection in the mother, or if she is of the leucorrhoeal type, give the baby the benefit of the doubt and instil a drop of nitrate of silver into each eye. At any rate wash the eyelids with a boric solution, lest the colon bacillus may be lurking there or lest the harmless saphrophyte of to-day may become the virulent streptococcus of to-morrow.

Don't start the little soldier out with a handicap.

Remember he is going into battle, without the protection of the anti-bodies which guard the adult and consequently with little power to resist microbic invasion.

When we taught the laity that tuberculosis was a contagious and not a hereditary disease, they made the present campaign against it a reality.

When we showed them that future citizens were dying by thousands every summer for want of fresh air and clean milk, the Infant Welfare Movement sprang into being and an international campaign of education and hygiene was begun.

Doctor, the next obstetrical case you attend, boil your scissors, lay out your "first aid packet to the uninjured" and then wash up and go through your bichloride once again. Then when the baby comes show the nurse how to open the packet without touching its contents, and while you are attending to the infant properly explain to her, to the mother and to the "spectators," just why you have taken so much pains with the baby. When you have done all these things for the baby, then and not until then may you rebuke the doctor who callously went away from a lying-in room and left a helpless baby to die, miserably, without lifting a hand to save him.

Therefore let us country doctors do our share in this Infant Welfare Movement. Let us not be content with starting our baby with clean eyes, a sterile dressing on his funis, and a good supporting pad and bandage, but let us watch over him as he grows up, lest some careless dealer sell him dirty or tubercular milk. Let us see that laws are placed on our statute books and enforced that give his father a living wage —whereby he may house, feed and clothe his family properly, thus decreasing their morbidity and their mortality.

MINUTES OF THE ONE HUNDRED AND SECOND ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY, HELD AT BURLINGTON, OCTOBER 14-15, 1915

Friday Afternoon Continued

Report of the House of Delegates (Continued)

A Member.—"Does any of that have to go to the National Society?"

Secretary Hamilton.—"Nothing goes to the National Society. If you read their By-Laws, you will see the dues for Fellowship are $5.00. You receive the *Journal* for $4.00 per year and the other dollar goes to the American Medical Association."

Dr. P. E. McSweeney.—"How much does the Medico-Legal Fund amount to at the present time?"

Dr. Hamilton.—"The report shows $2,918.82. And right here I want to call the attention of the House of Delegates to an interesting matter in that connection. If you look through the reported transactions of this society for the past ten years, or since this fund began, you will fail to find any ground for saying we really have such a fund. I am in favor of having such a specific fund; you have to protect a member for six years from the time he was a member in any suit brought against him for mal-practice while a member in good standing. The By-Laws provide that the society shall defend its members sued for mal-practice, but there never has been any definite action by this society for the creation of such a fund, or for its keeping up."

A Member.—"I understood this money was set aside but that they did not want it known throughout the State that the society was defending its members, because it might act to the disadvantage of a member if he was sued."

Secretary Hamilton.—"I think you will find that there was never any vote taken setting aside any fund, specially."

Dr. P. E. McSweeney.—"If there never has been it is time there should be, and I offer the following resolution:

"'*Resolved*: That the amount of $2,918.82, the "Medico-Legal Fund," so called, be, and it hereby is, declared to be and constitute the Medico-Legal Fund of the Vermont State Medical Society; and that there be added to said fund Two Dollars from the dues of each and every member of the Society, annually, until said fund shall reach the sum of Five Thousand Dollars, and that said fund be devoted exclusively to the purpose for which the fund was originally created.'"

Dr. Ricker.—"I will second that."

President Davidson.—"Gentlemen, you have heard the motion of Dr. McSweeney. Is there anything to be said on the motion? If not, as many as will so order will say 'Aye' * * * Those opposed will say 'No' * * * The Ayes have it, and the resolution is unanimously adopted. What is your further pleasure? I suppose we can now continue with the matter of the Publication Committee that was suspended?"

Dr. Hill.—"I move that the matter be taken from the table, and that the entire matter of printing and publication be left in the hands of the Publication Committee with authority to expend not to exceed $500.00 to be used in the printing and distribution of the pro-

ceedings of such meetings as the judgment of the committee may direct."

Seconded by Dr. McSweeney, and unanimously carried.

President Davidson.—"What other business is there in the way of unfinished business?"

Secretary Hamilton.—"Mr. President and gentlemen, there is a matter I wish action taken upon, in regard to the correction of some parts of the printed transactions of 1913. The report of the transactions of the House of Delegates for that year was somewhat mussed by the printer, and he lost his original copy so that he could not straighten it out. I would suggest the consideration of the following resolution:

RESOLVED by the House of Delegates that the report of the 1913 session as published in the Transactions of that year shall be corrected as follows:

Under 'New Business' as printed on page 34 insert the words *To Art. II* before the words *Section* 1 *The fiscal year*, etc.

After the words *without further payment of dues* ending Section 6, page 35, insert the words *To Article XVII* and place here that part of the report beginning *Sect.* 3. *The Society will pay* on page 35 and ending with the last words of Sect. 6 as printed on page 36, *his surety or sureties for costs or their estates.*

Then insert the words *The Amendments to Art. II of the By-Laws were seconded, put and adopted.*

Then read *The question of medical defense* as printed on page 35 on to 6:30 *P. M. Geo. S. Bidwell, Sec.*

Begin *Adjourned Meeting of House of Delegates* and read same through report except on page 38 omit the words *To new charter and* in report of Dr. Hyatt's motion reading *Moved by Dr. Hyatt that,* etc., making the reading of that paragraph *Moved by Dr. Hyatt that the proposed by-laws relating to medical defence be adopted.*"

Dr. Hill.—" I move the adoption of the resolution of the Secretary, and that he be and is hereby authorized to make the corrections read by him."

It was unanimously so ordered.

President Davidson.—"The next matter is Place of Next Annual Meeting; what is your pleasure?"

Dr. C. S. Scofield.—"Mr. President and Gentlemen, I have been approached by some members of the profession in St. Albans saying they would be glad to entertain the society there if you will honor us with the selection of that city as your next meeting place. I would like to know what Dr. Davidson thinks of it."

President Davidson.—"I have no doubt we should all be glad to have the meeting there; I am sure it would be a great pleasure to us of St. Albans, and those of the vicinity. We would surely all do what we could to make the meeting successful and enjoyable."

Dr. F. Walsh.—We should like very much to have the meeting held at St. Johnsbury next year; in saying this I am sure I voice the desire of the members of St. Johnsbury and Caledonia County."

Dr. J. M. Allen.—"I think, gentlemen, you ought to come to St. Johnsbury. It has been eight years since the society met with us, there."

Dr. Osgood.—"I move that the next annual meeting be held at St. Johnsbury."

Dr. Ricker.—"I think by next Fall we shall be in good shape to entertain the society at St. Johnsbury and our hotel accommodations will be of the best."

President.—"The motion before the house is to hold the next annual meeting at St. Johnsbury. Is there anything further to be said on the subject of place of meeting? If not those who will so vote will say Aye * * * Those opposed say No * * * The Ayes have it and it is voted to hold the next meeting at St. Johnsbury. If there is no other business we will proceed to the election of officers."

Dr. C. H. Swift.—"There is a matter that should be acted upon that involves amendment of the constitution and by-laws. We now have a Council that was appointed last year and a Committee on Health and Public Instruction. The duties of the council and of that committee should be defined and provided for, and I offer an amendment to the constitution and the by-laws so as to cover the two matters."

A Member.—"Under the provision of the constitution itself, any proposal of amendment must be made at the annual meeting before any amendment or change or addition can be made. But as to the amendment of any by-law or addition to the by-laws, that can be done now; it doesn't have to go over for a year. I move that consideration of Dr. Swift's resolution be postponed until to-morrow morning. That will give us a chance to put it into shape."

Dr. Swift.—"I will change my motion as to the matter of the amendment of the constitution and make it read that I give notice of a proposal of addition to the constitution."

Dr. Hazelton.—"I second the motion to lay the matter on the table."

It was so voted and the resolution was laid on the table and made a special order for consideration to-morrow morning.

President Davidson.—"The next business in order is the election of officers, and first comes nominations for president of the society for the ensuing year. The chair awaits your pleasure.

Dr. Ricker.—"Mr. President and Gentlemen, Caledonia County would like to present the name of one of its most respected members for president of this society; a gentleman whom I feel sure we should all delight to honor. I present the name of Doctor E. H. Ross."

Seconded by Dr. McSweeney and others.

President Davidson.—"Dr. E. H. Ross is nominated for president of the society. Are there any other nominations? If not we will proceed to his election."

Dr. Hill.—"I move that the secretary be instructed to cast one ballot for the members present for the election of Dr. Ross."

President Davidson.—"Those of you who would so order will say Aye * * Those opposed will say No * * * It is so ordered * * * and the secretary has complied with your instructions. I declare Dr. E. H. Ross duly elected. I believe it has been customary for the chair to appoint a nominating committee for the other officers."

Dr. Ricker.—"I move that the chair appoint a nominating committee of three members to prepare and present a list of names for the other offices and to make report at an adjourned meeting to-morrow morning."

Dr. Hazelton.—"I second the motion."

The motion prevailed and the chair announced as such committee: Dr. F. C. Liddle, Bennington Co.; Dr. W. G. Ricker, Caledonia Co.; Dr. John A. Stevenson, Windham Co.

President Davidson.—"These gentlemen will make report to the House of Delegates to-morrow morning. What hour will you set, gentlemen?"

Dr. P. E. McSweeney.—"I move that when this meeting adjourn it be to meet at the Mary Fletcher Hospital at eight o'clock to-morrow morning, in the Library."

Seconded by Dr. Hill, and so ordered.

On motion of Dr. McSweeney, adjourned.

FRIDAY A. M., OCTOBER 15, 1915

The adjourned session of the House of Delegates was called to order in the Library Room of the Mary Fletcher Hospital at 8:15 A. M., by Dr. C. W. Howard, First Vice-President.

Vice-President Howard.—"I believe, gentlemen, the first matter in order is the report of the committee on nominations."

Dr. Stevenson.—"Mr. Chairman and Gentlemen, your committee makes the following report:

For Vice-President, C. W. Bartlett, Bennington; Secretary, J. M. Hamilton, Rutland; Treasurer, C. F. Dalton, Burlington; Auditor, W. F. Hazelton, Bellows Falls; Councillors, 1st District, E. G. Melville, St. Albans, 2nd District to fill unexpired term, S. W. Hammond, Rutland, 3rd District, Robert M. Wells, Orleans; Executive Committee, J. M. Hamilton, Rutland, W. G. Ricker, St. Johnsbury, J. A. Stevenson, Chester; Publication Committee, J. M. Hamilton, Rutland, C. F. Dalton, Burlington, S. S. Eddy, Middlebury [resigned and A. Stuart M. Chisholm, Bennington, appointed]; Legislative Committee, F. W. Sears, Burlington, W. N. Bryant, Ludlow, H. H. Swift, Pittsford; Medical Education Committee, to serve 3 years, G. C. Rublee, Hardwick; Necrology Committee, F. T. Kidder, Woodstock, H. L. Manchester, Pawlet, O. V. Greene, Bethel; Medico-Legal Committee, to serve 3 years, W. N. Bryant, Ludlow; Committee on Health and Public Instruction, G. G. Marshall, Rutland, L. H. Ross, Bennington, Grace Sherwood, St. Albans, George I. Forbes, Burlington, F. W. Harriman, Montpelier.

Delegates—To Connecticut River Valley Medical Association, C. F. Ball, Rutland; Maine State Medical Association, M. P. Stanley, White River Jct.; New Hampshire Medical Society, J. M. Gibson, McIndoes Falls; Massachusettts Medical Society, C. W. Bartlett, Bennington; Connecticut State Medical Society, C. W. Howard, Shoreham; Rhode Island Medical Society, W. H. Lane, Brattleboro; Medical Society of the State of New York, L. M. Kelley, Manchester; Delegates to American Medical Association, to serve 2 years, Alan Davidson, St. Albans; alternate to American Medical Association to be appointed by the President; Anniversary Chairman, F. E. Clark, Burlington.

Dr. F. E. Clark.—"I move that the report be accepted and adopted and that the gentlemen therein named be declared elected to the offices indicated."

Severally seconded.

Vice-President Howard.—"Gentlemen, you hear the motion of Dr. Clark, which has been duly seconded. Those of you who will so order will say Aye * * * Those opposed say No. The

motion is carried and I declare the persons named in the list as read elected to the offices stated. What other business is there?''

Dr. Stevenson.—''Our treasurer, Dr. Dalton, suggested that the treasurer of the society should be required to give a bond. He thinks it should be done and is agreeable to having it done, and that the society pay for the cost of such a bond. I move that the treasurer of the Vermont State Medical Society be required to give a bond to the satisfaction of the president of the society, and that the cost of such bond be paid by the society.''

Dr. F. E. Clark.—''Wouldn't it be better to say that it shall be to the satisfaction of the Executive committee?''

Dr. Stevenson.—''I accept that amendment.''

Vice-President Howard.—''You have heard the motion as to a bond to be given by the treasurer of the society; those who will adopt that motion say Aye * * * Those opposed say No * * * The Ayes have it and you have adopted the motion. Was there not another matter that we were to take up at this adjourned session? As to proposed amendments of the constitution and by-laws?''

Secretary Adams.—''Dr. Hamilton handed me these proposals of amendment. As I understand one of them, that which relates to the constitution has to go over until our next annual meeting. That is as follows:

Dr. C. H. Swift gives notice of proposal of change of the Constitution as follows:

To amend Art. III so as to read as follows:

The officers of this society shall be a President, Vice-President, Secretary. Treasurer, Auditor, a Council, which shall consist of the president, secretary and treasurer of this society, and of four councillors elected from four districts as follows: 1st District to consist of Grand Isle, Franklin, Chittenden and Addison Counties; 2nd District, Rutland, Bennington and Windham Counties; 3rd District, Orleans, Orange, Essex and Caledonia Counties; 4th District, Lamoille, Washington and Windsor Counties.

The councillors from the First and Third District shall be elected in odd years to serve two years and those from the Second and Fourth Districts shall be elected in even years to serve two years; a Publication Committee of three members of which the secretary shall be chairman; Executive Committee of which the secretary shall be one, *ex officio;* a Committee of Necrology of three members; Committee of Legislation of three members; Committee of Health and Public Instruction of five members—all of whom except the council shall be elected annually and shall hold their respective offices until the close of the next annual meeting and until their successors are elected.''

Also to amend Art. V so as to read as follows:

''The active membership of this society shall consist of the active members of the affiliating County Societies, whose dues to the State Society are paid in accordance with the by-laws of this Society.''

Vice-President Howard.—''That will stand over until the next annual meeting.''

Dr. Adams.—''The proposed amendment of the by-laws is as follows:

''That Article I of the By-Laws shall be amended by the addition of Section

12, which shall read as follows: It shall be the duty of the Committee on Health and Public Instruction to act with the Council on Health and Public Instruction of the American Medical Association and to spread proper instruction in Public Health matters among the people of this State."

Vice-President Howard.—"You hear the proposed amendment of the By-laws. Those who will vote to so amend, say Aye * * * Those opposed say No. The Ayes have it and the amendment as proposed is carried."

Dr. Adams made a statement in regard to Dr. J. B. Hall, of Franklin, and on motion of Dr. Stevenson, seconded by Dr. F. E. Clark, Dr. Hall was made a life member without further payment of dues.

Vice-President Howard.—"The last business is the election of officers for the House of Delegates, namely a president, first and second vice-presidents and secretary."

The following officers were then duly placed in nomination and elected, as follows:

President, Dr. Liddle, Bennington Co.; First Vice-President, Dr. McSweeney, Chittenden Co.; Second Vice-President, Dr. D. A. Shea, Chittenden Co.; Secretary, Dr. B. D. Adams, Chittenden Co.

Vice-President Howard.—"If there is no further business, a motion to adjourn will be in order."

On motion of Dr. McSweeney, the House of Delegates adjourned without date, at 8:45 A. M., Friday, October 15th.

B. D. ADAMS,
Secretary House of Delegates.

In the absence of the Vice-President, Secretary Hamilton took the chair and introduced Dr. William Warren Townsend who then delivered the President's Annual Address.

This was discussed by Dr. Geo. H. Gorham of Bellows Falls.

President Townsend now resumed the chair and Dr. J. I. Cochrane read his paper entitled "Cause and Treatment of Heresy." At the end of the time allotted for the reading of the paper Dr. Cochrane resumed his seat, although he had not concluded.

On motion the time limit was waived and Dr. Cochrane was requested to finish his reading.

The First Annual Oration in Surgery was then delivered by Dr. Jos. Colt Bloodgood of Baltimore.

Dr. Bloodgood's oration was discussed by Dr. Tinkham and Dr. Ball, the latter of whom showed several instructive lantern slides on the screen.

After some further discussion of his oration Dr. Bloodgood spoke as follows regarding FIRST AID matters:

"May I make a motion? I am also interested in this military surgical propaganda, and your secretary will receive a communication in which the Society of the State of Vermont will be requested to elect a committee of three, or five, to be called "The First Aid Committee." This is a committee to make a survey of the methods employed in accident surgery on your railroads, in mines, manufactories, etc. Also of the opinions of surgeons with regard to first aid, and after making such survey, report to the Board of Sanitation in Washington. I do not know whether your council can appoint that committee after the meeting of the State Society. If they cannot I trust the motion may come up now. I want this

for a number of reasons. Not only a survey from the State, but if only a few come in it will be a sort of bayonet charge behind the committee at Washington to induce them to get working, and I think it needs something of that kind. If you can make such appointment then there is no necessity for this motion."

Dr. Bloodgood was informed that the President of the Society has authority to make such appointment.

As this concluded the program the meeting adjourned sine die.

JAS. M. HAMILTON.
Secretary.

REGISTRATION AT 102ND ANNUAL MEETING

Burlington, Oct. 14-15, 1915

C. G. Abell, Enosburg Falls, Vt.
A. L. Patch, Windsor, Vt.
A. V. Cooper, Wolcott, Vt.
E. G. Twitchell, Burlington, Vt.
W. W. Townsend, Rutland, Vt.
E. A. Heath, Winooski, Vt.
Jas. M. Hamilton, Rutland, Vt.
Chas. H. Dean, Salisbury, Vt.
Morgan B. Hodskins, Palmer, Mass.
E. T. Brown, Burlington, Vt.
Charles H. Swift, Rutland, Vt.
Rollin D. Worden, Montgomery Ctr., Vt.
H. W. Barrows, Stowe, Vt.
H. A. Ladd, Burlington, Vt.
William H. Grinnell, Rutland, Vt.
J. F. Blanchard, Newport, Vt.
C. H. Beecher, Burlington, Vt.
H. C. Tinkham, Burlington, Vt.
F. W. Sears, Burlington, Vt.
J. A. Stevenson, Chester, Vt.
Charles F. Dalton, Burlington, Vt.
J. N. Jenne, Burlington, Vt.
Henry D. Holton, Brattleboro, Vt.
G. O. Contu, Burlington, Vt.
E. H. Buttles, Burlington, Vt.
F. N. Aldrich, Derby, Vt.
William G. Ricker, St. Johnsbury, Vt.
E. H. Ross, St. Johnsbury, Vt.
Frank M. Walsh, St. Johnsbury, Vt.
Winfred H. Lane, Brattleboro, Vt.
M. C. Twitchell, Burlington, Vt.
C. W. Howard, Shoreham, Vt.
B. D. Adams, Burlington, Vt.
R. W. Lovett, Boston, Mass.
I. N. Eastman, Groton, Vt.
Sue E. Howard, Burlington, Vt.
W. B. Cannon, Boston, Mass.
John B. Wheeler, Burlington, Vt.
C S. Leach, Hyde Park, Vt.
E. S. Towne, Burlington, Vt.
H. S. Wilder, Burlington, Vt.
J. L. Tiffany, New York.
Fred Sumner Smith, Chester, Conn.
Frank Wheeler, Plainfield, Vt.
George M. Sabin, Burlington, Vt.
A. S. C. Hill, Winooski, Vt.
F. K. Jackson, Burlington, Vt.
F. E. Clark, Burlington, Vt.
C. K. Johnson, Burlington, Vt.
John A. Hunter, Burlington, Vt.
Robert L. Maynard, Burlington, Vt.
E M. Brown, Sheldon, Vt.
D. S. Drake, White River Jct., Vt.
Sidney L. Morrison, Burlington, Vt.
O. V. Greene, Bethel, Vt.
Olin D. Greene, Bethel, Vt.
C. F. Ball, Rutland, Vt.
E. I. Hall, Rutland, Vt.
G. G. Marshall, Rutland, Vt.
S. L. Goodrich, Waterbury, Vt.
Stanton S. Eddy, Middlebury, Vt.
N. E. Avery, East Barre, Vt.
O. D. Eastman, Woodsville, N. H.
O. N. Eastman, Burlington, Vt.
C. A. Pease, Burlington, Vt.
J. M. Gibson, McIndoe Falls, Vt.
J. S. Eastwood, Brandon, Vt.
F. A. Edmunds, Bethel, Vt.
W. Scott Nay, Underhill, Vt.
Edwin A. Hyatt, St. Albans, Vt.
H. J. Mackay, Peacham, Vt.
D. C. Jarvis, Barre, Vt.
E. L. Averill, Brandon, Vt.
G. G. Hall, South Woodbury, Vt.
C. S. Scofield, Richford, Vt.
R. M. Pelton, Richford, Vt.
F. T. Briggs, Bristol, Vt.
George F. Edmunds, Bristol, Vt.

A. H. Bellerose, Rutland, Vt.
Geo. W. Hubbard, Jericho, Vt.
H. R. Watkins, Burlington, Vt.
A. M. Goddard, Albany, Vt.
A. Morton, St. Albans, Vt.
R. W. Prentiss, Middlebury, Vt.
E. A. Colton, Montpelier, Vt.
J Reynolds Patton, Fairfield, Vt.
F. C. Liddle, Dorset, Vt.
D. J. Carroll, Vergennes, Vt.
L. W. Henson, Montpelier, Vt.
W. L. Wasson, Waterbury, Vt.
F. W. Harriman, Montpelier, Vt.
Thomas J. Hagan, Pittsford, Vt.
E. H. Martin, Middlebury, Vt.
H. H. Swift, Pittsford, Vt.
E. J. Melville, St. Albans, Vt.
P. E. McSweeney, Burlington, Vt.
John S. Hitchcock, Northampton, Mass.
F. R. Talby, Charlotte, Vt.
C. Hamilton Hazen, Springfield, Vt.
W. N. Bryant, Ludlow, Vt.
F. J. Arnold, Burlington, Vt.
George L. Bates, Morrisville, Vt.
C. B. Ross, West Rutland, Vt.
A. L. Miner, Bellows Falls, Vt.
C. W. Bartlett, Bennington, Vt.
P. M. Williams, Rutland, Vt.
William R. Pond, Rutland, Vt.
Edward J. Rogers, Pittsford, Vt.
F. L. Osgood, Townsend, Vt.
J. N. Blodgett, Bellows Falls, Vt.
L. P. Holcomb, Johnson, Vt.
S. W. Paige, St. Albans, Vt.
Alan Davidson, St. Albans, Vt.
John Gibson, St. Albans, Vt.
Lyman Allen, Burlington, Vt.
C. F. Whitney, Burlington, Vt.
L. A. Russlow, Randolph, Vt.
B. D. Colby, Sudbury, Vt.
J. Lyman Lovejoy, Manchester Depot, Vt.
M. F. McGuire, Montpelier, Vt.
William Lindsay, Montpelier, Vt.
W. J. Howard, Waitsfield, Vt.
A. M. Cram, Bridgewater, Vt.
D. C. Hawley, Burlington, Vt.
G. C. Rublee, Hardwick, Vt.
D. A. Shea, Burlington, Vt.
J. M. Allen, St. Johnsbury, Vt.
E. M. Cleasby, Orleans, Vt.
H. H. Miltimore, St. Johnsbury, Vt.
W. F. Hazelton, Bellows Falls, Vt.
George H. Gorham, Bellows Falls, Vt.
James Sutcliffe Hill, Bellows Falls, Vt.
Nathan R. Caldwell, Groton, Vt.
F. M. Rogers, Vergennes, Vt.
Lucretius H. Ross, Bennington, Vt.
W. E. Putnam, Bennington, Vt.
A. L. Larner, Burlington, Vt.
H. C. Jackson, Woodstock, Vt.
H. B. Hanson, East Berkshire, Vt.
J. B. Woodhull, North Bennington, Vt.
Charles W. Ray, Chester, Vt.
F. L. Gilbert, Grafton, Vt.
F. L. Osgood, Saxtons River, Vt.
Robert C. Flagg, Essex, Vt.
Frank R. Hastings, Barton, Vt.
R. M. Wells, Orleans, Vt.
A. J. Valleau, Morrisville, Vt.
Rowley S. Flagg, Fairfax, Vt.
C. W. Kidder, Woodstock, Vt.
V. H. Coffey, Montpelier, Vt.
J. M. Caisse, Swanton, Vt.
A. M. Norton, Bristol, Vt.
L. C. Holcombe, Milton, Vt.
P. L. Dorey, Middlebury, Vt.
E. S. Lane, North Ferrisburg, Vt.
B. H. Stone, Burlington, Vt.
J. H. Dodds, Burlington, Vt.
J. G. Thibault, Winooski, Vt.
C. M. Ferrin, Essex, Vt.
J. I. Cochrane, East Dorset, Vt.
J. A. Dow, West Topsham, Vt.
A. C. Freeman, Plainfield, Vt.
J. H. Judkins, Northfield, Vt.
T. S. Brown, Burlington, Vt.
George I. Forbes, Burlington, Vt.
B. J. A. Bombard, Burlington, Vt.

Symptom of Acute Otitis Media.—Blum reports that further experiences with 200 cases have confirmed his statements in regard to the early diagnosis of otitis media in children by local pressure. On placing the finger behind the angle of the jaw in the groove formed by the inferior maxillary bone and the anterior border of the sterno mastoid of the affected side, and pressing upward and inward toward the auditory canal, decided evidence of pain is elicited. He says this symptom is constant in otitis media, and is of special diagnostic value in infants.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

James Madison Hamilton, M. D., Rutland, Sec'y.
Charles Francis Dalton, M. D., Burlington, Treas.
A. Stuart M. Chisholm, M. D., Bennington, Editor.

All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.

The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, March, 1916.

EDITORIALS

CIVILIZATION AND CLIMATE

As the fate of Rome was settled on the plains of Philippi, so the conquest of the Canal Zone was decided at Havana. With the control of yellow fever and remittent fever, the belief was commonly entertained that residence in the tropics was at length become innocuous to the white race. But a little reflection shows us that the tropical diseases were merely incidents of the effect of tropical residence, and when they are entirely eliminated, the result is simply to clear the field for the consideration of the real impediments. Beyond the eradication of these tropical scourges, beyond the reach of tropical medicine, lie the great questions of soils, of humidity, of temperature, in a word, of climate, and particularly of the effect of climate on hygiene, energy, vitality and morals. These are matters which are now included within the widened domain of geography, and the modern geographer thus resumes the position that was accorded to those Asiatic Greeks, who five centuries before Christ, busied themselves with observations on the effect of the variations of climate on human health, human intelligence and human activities. The modern geographer thus takes his stand beside the ancient philosophers, who were also the ancient physicians, and becomes their counterpart and successor. But Medicine has never lost her interest in these questions, and is to-day in fact studying them with much assiduity and some effect under the title of tropical medicine.

For many years the effect of variations of climate on mankind has been studied, and a great mass of observations has been collected and vast deductions made from them. The cause of the migration of tribes and nations has been found to rest upon climatic motives, and their progress has been proved to follow not so much lines of least resistance alone—though these have had their influence—but lines or routes that promised climatic advantages or benefits. How general and how extensive these migrations have been is indicated by the fact that scarcely any country on the earth's surface is to-day inhabited by its primitive people. In Europe all are migrants, save perhaps the Basques in the north of Spain (as

is rendered probable by their language), and the Finns and Lapps of Scandinavia; and the last if really autochthonous, would go far to prove that the earlier inhabitants of Europe were of the Mongolian race. The Incas of Peru, and the Aztecs together with other Mexican tribes, if not all of them, are known to be migrants, while ethnologists are pretty generally agreed that the North American Indians appeared at a rather recent date in our own country. In Australia there are perhaps a few aborigenes left, and in China and Africa, many. Conquest has of course determined numerous migrations, as well as oppression, which is the bitter side of politics; but considerations of climate have always been paramount, and have usually directed conquest from less desirable to more desirable areas of the earth's surface.

"From the days of Aristotle to those of Montesquieu and Buckle, there have been men who believed that climate is the most important factor in determining the status of civilization."* It is significant that the highest areas of civilization, of energy, of development, and of intellectual life, are found to be approximately between the 38° and the 55° of north latitude. Frequent storms, marked but not excessive variations of temperature, fertile soil and adequate humidity—conditions which denote proximity to the ocean—seem alike necessary for what, in the interest of humanity, may be described as the ideal climate for permanent residence. These conditions are found in Berlin, Paris, Brussels, London, Boston, New York, and many other cities whose climate is not generally regarded as ideal in other respects, while the so-called ideal climates of Naples, Southern Spain, Southern California, Florida, Bahama, Hawaii and Samoa, all of which have been lauded to the skies, do not seem in point of achievement to have deserved much of humanity. Barbarossa once remarked, "If God Almighty had seen my kingdom of Naples, he would never have suffered himself to be born in Palestine." Robert Louis thought Samoa the finest climate in the world, and Southern California and Bahama have been extravagantly praised.

Of the Bahama Islands Doctor Huntington speaks at some length. We will condense his remarks, saying in general that they apply with more or less force to the other so-called ideal climates.

At the time of the American Revolution a considerable number of Loyalists were so faithful to England that they sacrificed their all to escape from the new flag with its stars and stripes. Leaving their homes in Georgia and other southern states, they sought the British territory of the Bahamas, and have lived there now for over four generations. No where else in all the world have people of the British race lived as genuine colonists for so long in so tropical a climate. The result has been disastrous. Compare the Bahamas with Canada. The same sort of people went about the same time to both places. To-day the descendants of the Loyalists in Canada are one of the strongest elements in causing that country to be conspicuously well-governed and law-abiding. In the Bahamas the descendants of the same type of people show to-day a larger proportion of poor-whites than can probably be found in any other Anglo-

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**Civilization and Climate,* Ellsworth Huntington, Ph.D., Yale University Press, 1915. Royal 8vo. $2.50.

Saxon community. The average white farmer is scarcely ahead of the average negro; in the Bahamas the two races tend to the same level. This degradation is not due to inter-marriage, and the hook-worm is practically unknown. Malaria is no more prevalent than in Delaware. The soil is wonderfully fertile and crops will ripen in all seasons. The climate is called one of the best in the world. It is very healthful and they have few diseases and little sickness. The cause of their deterioration is not far to seek. When nature has done so much, man has to do but little, and the climate, ideal as it is, is too uniform. It affords so little stimulation that his will power is sapped and he degenerates. These results are presumably due largely to physiological causes, but they manifest themselves chiefly through the will, and in certain definite ways, namely, laziness, an irascible temper, drunkenness, sexual immorality and gambling.

These, as all travelers know, are the traits acquired by the vast majority, if not indeed all, of white men who reside long in the tropics. Our own experience as Americans in tropical countries, is not yet of sufficient length perhaps to develop all of these characteristics, and yet they will assuredly overtake us after we have remained long enough in Porto Rico and the Philippines to obtain the full effect of tropical residence. The tropics are not the abode of all the virtues.

Vermont ranks high on Doctor Huntington's chart of energy, intelligence and achievement. In respect of persons of unusual ability, as reckoned per 60,000 of population in the United States, Vermont at 70 ranks fourth, being only surpassed by Massachusetts at 98, Connecticut at 78 and Rhode Island at 77.

In the chart illustrating illiteracy in the United States among persons over ten years of age of native white parentage, Vermont with twelve illiterates to the thousand, falls far below all the states west of the Mississippi River and north of the 40th parallel, and yet it ranks above Maine, fourteen, Pennsylvania, fourteen, Illinois seventeen, and Ohio seventeen.

In mortality Nebraska has a rate of 81; Iowa, 82; Minnesota and Kansas, 87; Illinois and Oregon, 88; Ohio and Vermont, 90. The "ideal" climates have, Southern California, 97; Florida (the highest), 130.

The area of highest civilization in North America lies in the small section between the Mississippi River and the Atlantic, and extending from the 38° to the 45° north latitude. In Europe, owing to different heat distribution, the corresponding area is found to comprise the whole of western Europe between the 45th and the 60th parallel.

We have touched very lightly on some of the themes of this varied and excellent work, and have scarcely alluded to the careful study that it contains on the effect of climate on efficiency, but our comments will not be in vain if we can introduce this interesting volume to the thoughtful attention of the readers of VERMONT MEDICINE.

Secretary's Page

Attention of members is called to the following article from the By-laws:

MEMBERSHIP DUES

ARTICLE II.

SECTION 1. The fiscal year of this Society and of the affiliating County Societies shall begin January 1st.

SEC. 2. Dues are payable January first for the ensuing year. Each County Treasurer shall collect and forward to the State Treasurer with a report of the members whose dues are therewith paid, not later than March 31st of each fiscal year, from each member of his County Society the sum of $4.00 for the State Society, in addition to any amount that may be voted by the County Society for its own use.

SEC. 3. On April first of each year a new roster shall be compiled by the Secretary. This roster shall include the names of only those who have paid their dues in full for the current year. Only those who have so paid their dues shall be considered members in good standing. Those dropped from the previous roster shall be notified by the Secretary.

SEC. 4. Any member who has been dropped from the Society for the non-payment of dues, may be reinstated by paying all arrears.

SEC. 5. No member, who is not in good standing, shall receive any of the publications of the Society and no member shall receive the benefits of the Medico-legal defense provisions of this Society in defense of any act that occurred while he was not in good standing.

SEC. 6. Members who have been in good standing in their County Societies during the preceding 5 years and have reached the age of 65 may be carried as active members of County and State Societies without further payment of dues.

The March number of Vermont Medicine will contain the full new roster of the County Societies and in accordance with Section 5 above will go only to members, whose dues are paid.

The medico-legal committee will have much more certain authority to defend those whose dues are in the hands of Treasurer promptly on time than those who wish to be reinstated later.

Will the Secretaries not send in their reports early.

The Post Graduate Clinics held by Dr. Beecher at Rutland and St. Johnsbury were well supplied with material and between 25 and 30 physicians were in attendance at each clinic.

The following excellent program was carried out by the Windham County Medical Society at the Brattleboro Memorial Hospital, Saturday, Feb. 26th.

1. (a) Common Gastric-Intestinal Disorders, Observation on, Etiology, Diagnosis and Management.

   (b) Presentation of Cases.

   DR. CHAS. H. GOODRICH, Brooklyn, N. Y.

2. (a) Some Practical Points in the Treatment of Eczema.

   (b) Presentation of Cases.

DR. DAVID E. HARRIMAN, Dermatologist, Springfield, Mass.

3. (a) Ununited Fracture of the Tibia.

   (b) Treatment by the Inlay Bone Graft.

   DR. G. R. ANDERSON, Brattleboro, Vt.

THE FACTOR OF POVERTY IN SANITATION

Surgeon-General Wm. C. Gorgas

The factor of poverty in sanitary problems was discussed in Washington, Nov. 26, by Surgeon-General William C. Gorgas, whose success in cleaning up Havana and the Panama canal zone have brought him recognition as America's leading sanitarian. His audience was the Clinical Society of Surgeons, assembled in their twenty-fourth annual meeting. Dr. Gorgas said, in part:

"Such sanitary work as is necessary in the tropics is inexpensive, but measures directed against special disease are not the greatest good that can be accomplished by sanitation.

"Before these great results that we can all now see are possible for the sanitarian, we shall have to alleviate more or less the poverty at present existing in all civilized communities. Poverty is the greatest of all breeders of disease and the stone-wall against which every sanitarian must finally impinge.

"During the last ten years of my sanitary work I have thought much on this subject. Of what practical measure could the modern sanitarian avail himself to alleviate the poverty of that class of our population which most needs sanitation? It is evident that this poverty is principally due to low wages; that low wages in modern communities are principally due to the fact that there are many more men competing for work than there are jobs to divide among these men. To alleviate this poverty two methods are possible, either a measure directed toward decreasing the number of men competing for jobs, or, on the other hand measures directed toward increasing the number of jobs.

"The modern sanitarian can very easily decrease the number of men competing for jobs; if by next summer he should introduce infected stegomyia mosquitos at a dozen different places in the southern United States he could practically guarantee that when winter came we would have several million less persons competing for jobs in the United States than we have at present. This has been the method that man has been subject to for the last six or seven thousand years, but it does not appeal to me, nor, I believe, to yourselves. This method is at present being tried on a huge scale by means of the great war in Europe. I do not think that I risk much in predicting that, when this war is over and we shall have eliminated three or four million of the most vigorous workers in Europe, wages will rise and for a long time no man will be unable anywhere in Europe to get a job at pretty fair wages.

"But I am sure that every sanitarian would much rather adopt measures looking toward the increase of jobs rather than, as we have done in the past, submit to measures that decrease the number of competitors for jobs.

"I recently heard one of the members of the Cabinet state that in the United States 55 per cent of the arable land, for one reason or another, is being held out of use. Now suppose in the United States we could put into effect some measure that would force this 55 per cent of our arable land into use. The effect at once would be to double the number of jobs. If the jobs were doubled in number wages would be doubly increased. The only way I can think of forcing this unused land into use is a tax on land values.

"I therefore urge for your consideration, as the most important sanitary measure that can be at present devised, a tax on land values."

Reports of Officers and Committees

AUDITOR'S REPORT

Burlington, Vt., Oct. 14, 1915.

To the Members of the Vermont State Medical Society.

Your Auditor would most respectfully report that he has this day examined the books and accounts of the Treasurer of The Vermont State Medical Society, has found them correct and has approved the same.

Respecttfully,
E. M. BROWN,
Auditor.

MEDICO-LEGAL COMMITTEE

St. Albans, 29 Sept., 1915.

To the Members of the Vermont State Medical Society:—

The report of the Medico-legal Committee of last year showed all cases that had come to the attention of the Committee successfully closed, with one exception. This was a case of alleged maltreatment of a case of Empyema. Action was brought in Windsor County Court. Last December, however, judgment for the defendant was entered, thus disposing of the last case.

During this year no case has been brought to the attention of the committee, till August, when a report was given us that trouble might arise for one of our members. We feel confident, however, that if this case progresses it will be as successfully disposed of as the other cases have been.

The cost of the work this year has been $55.85, the smallest amount of any year except the first. In 1911 it was $50.00; 1912, $73.14; 1913, $135.91; 1914, $176.06, making a total for the five years of $490.96. Our attorney estimates that had these five cases, which have been thus far handled by the society, been taken care of by the doctors individually the cost would have been at least $2,500.00. If this estimate is approximately correct we have saved to the members of the society over $2,000.00.

Since 1911 there has been collected from each member of the society $2.00 annually for the use of this department. So far, however, these monies have not been segregated from the monies of the general fund. There is, perhaps, nothing in our by-laws which requires this money to be used for this purpose. Your committee feel, however, that the amount of money so accumulated should be set aside and made to yield a return, and we recommend that the House of Delegates authorize the treasurer to so segregate these monies.

The members of your committee believe that the work of this department has been successful, that it has had and will continue to have a tendency to cement the members together, and to raise the general standard of skill among the members of the society.

Recommend continuing $2.00 assessment.

Very fraternally yours,
J. N. JENNE,
EDWIN A. HYATT,
C. W. BARTLETT,
Committee.

COMMITTEE ON LEGISLATION

Your committee on legislation respectfully submits the following report:—

At the meeting of the House of Delegates last year the legislative committee was instructed to favor the passage of bills in the state legislature relating to the care of the indigent cases of tuberculosis, the further support of medical education, the control of the sale of narcotic drugs, and the taking of insane women to the state hospitals for the insane by women instead of by men. The first three bills were passed without any especial aid from the committee. The legislative appropriation for the state care of the charity cases of tuberculosis was raised from five thousand to ten thousand dollars. The Medical School receives $30,000 instead of $23,500, and a law was passed attempting to exercise control over the sale of narcotic drugs, but the bill relating to having a woman attendant accompany an insane woman to the insane hospital, which was especially recommended by the Franklin County Society, was killed in the committee for the insane. Even the medical members of the committee did not seem to realize the importance of the bill and in order that the State of Vermont may not be so far behind the other progressive states in this matter, your committee recommends that the House of Delegates again consider the subject in its deliberations.

FRED W. SEARS,
IRVING S. COBURN,
JOHN H. BLODGETT.

In Memoriam

DR. L. HEMENWAY

Dr. Lewis Hemenway was born in Manchester June 12th, 1877, the son of Dr. and Mrs. L. H. Hemenway. He was graduated from Burr and Burton Seminary in 1896, and from Yale College in 1901.

After his medical training, which he received at the University of Michigan and The Detroit College of Medicine, he became an intern for one half year in the Troy Hospital. He then returned to his native town to practice.

Dr. Hemenway was a quiet, unassuming man, and much devoted to his profession. Ever ready to respond to call, night or day, in all kinds of weather, he was most popular with his patients, who found in him, not only an efficient physician, but a true and loyal friend.

His death, although an inestimable loss in the wide circle of his professional activities, was still more a cause of sorrow and mourning to all who had the pleasure of knowing him as a man.

DR. H. G. BULLARD

Dr. Harry Gates Bullard, aged 49 yrs., died Jan. 3, 1815, of cirrhosis of the liver after several weeks' illness. He was a son of Dr. Gates B. Bullard of St. Johnsbury, Vt., one of the most widely known and successful practitioners in northeastern Vermont. His grandfather, Dr. George C. Wheeler, was for many years a practicing physician in the eastern part of the town.

After graduating from St. Johnsbury Academy in 1886, Harry Gates Bullard

entered the Medical Department of the University of Vermont, where he remained two years. He spent the next year with the Vermont Marble Company at Proctor, then completed his medical education at Dartmouth in the class of 1891. He practiced in Denver, Col., one year, then returned to St. Johnsbury, where he continued his profession until his death.

His genial manner and cheery, accommodating disposition won for him many true friends and a successful practice.

DR. E. L. WASHBURN

Dr. Eber Leslie Washburn was born at Saranac, N. Y., Sept. 20th, 1864. He attended the common school until he was 14 years of age. He then entered the employ of the Chateaugay Ore and Iron Co., at Chateangay Lake, N. Y., as errand boy, and by hard work and study at home he was promoted to position as clerk, then bookkeeper, and later druggist at Lyon Mountain, N. Y. In 1893 he entered the Medical Department of the University of Vermont, working his own way through college, and graduating in 1896. After graduating, he returned to Lyon Mountain, N. Y., as assistant physician for the Chateaugay Ore and Iron Co., remaining there until March, 1898, when he moved to East Berkshire, Vt., and practiced medicine there until his death, which occurred Dec. 14th, 1914, being found dead in his buggy when he reached home after making a professional call. He was a member of the Franklin County and State Medical Societies, and had held various offices in the County Society, and at one time was president. He had a large country practice which attested to his ability as a physician.

DR. E. J. HICKEY

Eugene J. Hickey was born in Johnson, Vt., January 31, 1882. He received his preliminary education at Hyde Park Academy and was graduated from the Medical Department of the University of Vermont in 1907. He began practice immediately at Barnard, Vt., where he remained until 1911, when he sold out and moved to Warren.

During the past summer, he was critically ill for a time with a myo-cardial trouble, but had for a few weeks been doing most of his work again until the morning of Oct. 7, when he was suddenly stricken and died immediately. He was buried at Johnson with masonic services.

In September following Dr. Hickey's graduation from college, he was married to Miss Alice Everett of Burlington, who with his father, J. J. Hickey of Johnson, survives him.

Dr. Hickey was universally loved and respected and as I went about among his patients after his death I was greeted with tears at every house. The people of Warren feel that they have lost not only a capable and faithful young physician, but a good citizen as well.

(W. J. Howard, Waitsfield).

MARK RICHARDS CRAIN

Doctor Crain was born in Springfield, Vt., November 16, 1855, and was educated in the public schools of that place, being an honor student, with special interest in the study of mathematics. Later he studied medicine with his father, Dr. Henry Foster Crain, and he graduated from the medical department of the University of Vermont in 1879.

being licensed to practice in Vermont the same year. He worked with his father in Springfield, where they had a large practice, until October 18, 1882, when both moved to Rutland to continue their practice.

On November 22, 1888, Dr. Crain married Abbie Adams of Pittsford, who died in July, 1912. There were no children.

Dr. Crain's mother was Helen Ann Porter of Springfield, daughter of Hon. Samuel Wadsworth Porter. He was named after his great grandfather (on his mother's side) Mark Richards of Westminster, Vt., a prominent man of his time, whose mother was a sister of the eminent Rev. Samuel Hopkins. Mark is a family name in all lines of the Hopkins family. He was also a descendant of Benjamin Wadsworth, president of Harvard College in 1725, the president's house at this institution being called Wadsworth House.

Dr. Crain was a careful student, who specialized in surgery, and his extensive travels during which he visited clinics in all parts of the world, together with many months of post-graduate work with prominent surgeons, made his counsels of much value. He was probably the first man in Vermont to use iodine extensively in preparing the operation field, a practice now in general use.

In his post-graduate work Dr. Crain passed the winter of 1879-1880 in New York City under the guidance of Dr. Little and in 1902 he was in Vienna for five months, and again in 1908 he crossed the water for further instruction in this school of advanced surgery.

Aside from this study, the former Rutland surgeon in his trip around the world in 1913 visited many hospitals and his frequent trips to the Mayo Brothers hospital in Rochester, Minn., gained for him much knowledge of the subject he had chosen for a life study. He counted among his friends the most prominent practitioners of surgery in the country.

Dr. Crain had served as railroad surgeon for the Rutland Railroad for many years. He was attending surgeon at the Rutland hospital and consulting surgeon at the Springfield (Vt.) hospital at the time of his death. For many years he was a pension examiner and he also served in this same capacity for some of the larger insurance companies.

Dr. Crain was greatly interested in hospital work and it was he who first started a movement towards securing an X-ray machine for the Rutland hospital and a few years ago he presented the local institution with a Lungmotor. In his will, Dr. Crain left the Rutland hospital his extensive medical library, instruments and a considerable amount of money.

Besides being member of several national medical and surgical societies, Dr. Crain was an ex-president of the Vermont State Medical Society, of the Rutland County Society and of the Rutland Clinical Club.

H. R. Ryan, M. D.

RUTLAND COUNTY MEDICAL AND SURIGAL SOCIETY

At a meeting of the undersigned committee held this 23rd day of October, 1915, the following Resolutions were made and adopted:

WHEREAS, It has pleased the Almighty to take from us our fellow-member Mark Richards Crain, And,

Whereas, In the death of Doctor Crain, the Society loses an able and well-beloved supporter, therefor,

BE IT RESOLVED: That we express the sorrow of the entire membership in the loss of one whose life was cheerfully devoted to the service of others and whose memory will be affectionately cherished by those whom he had served long and well. An earnest student and worker .... eminently successful in his calling .... honored by his colleagues and in the community. He led a noble and useful life and by his many kindly acts and counsel, he held a warm place in the hearts of his fellow practitioners who are left to mourn his death,

AND, BE IT RESOLVED: That we extend our heartfelt sympathy to the bereaved family, and,

BE IT FURTHER RESOLVED: That a copy of these Resolutions be sent to the family of our deceased member and that a copy be spread upon the records of the Society.

(Signed)
A. H. BELLEROSE,
CHARLES S. CAVERLY,
F. H. GEBHARDT,
Committee.

PASTEURIZATION

J. C. Geiger and F. L. Kelly, Berkeley, Cal. (*Journal A. M. A.*, Jan. 22, 1916), report a small epidemic of typhoid traced to a single dairy. A large number of persons partook of the infected milk both in the city of Berkeley and in the smaller one of Richmond, but there were ony twelve cases in the latter town and none in the other. This comparative immunity was shown to be due to the pasteurization of the milk supplied in Berkeley and the absence of cases in the other town where the pasteurized milk was used. The absolute protection that pasteurization gave to the thousands of customers receiving the infected milk is an indisputable argument against the use of raw milk where it is impossible to secure adequate inspection at frequent intervals.

CANCER NOTES

"Thirty per cent of all cancers in civilized man are in the stomach" (Mayo). "Gastric cancer follows clinically and histopathologically upon ulcer in 60% of all cases (Eusterman). Cabot says he knows of but two primary diseases of the stomach — ulcer and cancer. These facts emphasize the necessity of an early differentiation between early primary gastric lesions, functional, and reflex disturbances. Friedenwald, in his series of 1,000 cases of Cancer of the Stomach states that "of the patients suffering from various gastric disturbances nine and six-tenths per cent are affected with cancer while but seven and eight-tenths per cent have ulcer." This shows the comparatively small percentage of primary lesions in proportion to the number of cases presenting gastric disturbances due to errors in diet and reflex disturbances from primary lesions of organs other than the stomach, such as appendicitis, hepatic and renal affections, pancreatitis, tabes, cardiac diseases, cardiospasm, etc.

Early diagnosis of cancer of the stomach cannot be made upon physical findings. It must be determined by a carefully taken history with secondary confirmation by means of X-Ray examinations and by chemical analysis. Until very recently chemical analysis held first place as confirmatory evidence but they have had to give way to the Roentgen ray and opaque meal as being the most essential aid, if not in reality equal to the history in many instances.

The exact cause of cancer is as yet undetermined. It is known that chronic irritation plays an important role and in so far as cancer of the digestive tract

is concerned it would seem that acid media favored its development. This is evidenced by the rarity of cancer appearing as a primary growth in the alkaline portion of the digestive tube — i. e., portion from the pyloric sphincter to the cecum. Cancer of the gastric-intestinal tract occures most frequently in the acid stomach. Its next most frequent location is in the distal portion of the acid colon. It is readily understood how these two locations are subjected to (chronic) irritating influences through errors of diet and colonic stasis.

It becomes necessary since cancer may be superimposed upon gastric ulcer and almost never upon a duodenal ulcer to differentiate between these ulcers. Clinical differentiation between gastric and duodenal ulcer is often most difficult. Duodenal ulcers, together with a few ulcerations near the pylorus on the gastric side, give a clear cut set of acute disturbances while lesions in the stomach away from the pylorus are less irritative. There is some form of gastric distress in about ninety-eight per cent of ulcer cases. Pain, one to one and one-half hours, after eating is quite diagnostic of gastric lesions. Gastric ulcer causes a more diffuse area of pain than is symptomatically evident in duodenal ulcer. Duodenal ulcers usually produce a small and well-defined area of pain and tenderness. Small amounts of food give some relief in gastric ulcer, with distress when increased. Soda will often relieve in gastric lesions when food will not. Soda has little or no effect in duodenal ulcers.

There are, however, no sharp lines of demarcation clinically, between gastric and duodenal ulcer formation. Rosenow's experiments are of interest and practical value wherein he has been able to produce both gastric and duodenal ulcers in a variety of animals by the intravenous injection of a certain strain of human tonsilar streptococci. From these experiments and clinical observation in man it is apparent that some of the severe infections may cause not only hemorrhage and erosion, but do produce definite ulceration of both the gastric and duodenal mucosae.

As has been stated, some of the gastric ulcers degenerate into a malignant process, while the duodenal ulcer is almost immune to such a metamorphosis. For this reason the history must attempt to differentiate between them with confirmation from whatever source available. Herein lies the superiority of the Roentgen ray over chemical analyses in that the opaque meal will definitely locate the lesions, in better than ninety per cent of cases, as to whether the ulcer is on the gastric or duodenal side of the pyloric sphincter.

It is advisable to have a chemical analysis made of the gastric contents. One should also examine the stool for the presence of occult blood. The best and most used tests serving these two purposes are the following: The Gluzinski gastric analysis and the simple Benzidine test for occult blood.

Friedenwald's statistics demonstrate the applicability of the Gluzinski test breakfasts. He shows that eighty-nine per cent of gastric cancers have an *anacidity* and that three per cent have a *subacidity* the other eight per cent being either normal or hyperacid. The Gluzinski test breaksfasts quite definitely determine these factors. The value of these tests lies in the differences found in the HCl content by the first and second meals, the second test meal being given one hour after the first. In gastric ulcer

the second test will show an increase of free HCl while in cancer the second test will show a continued anacidity or a decrease of HCl if there was a normal or hyperacidity in the first meal. This is not a difficult examination and can be performed by any physician used to chemical analyses. Every practitioner, however, should be familiar with the Benzidine occult blood test, as occult blood is present in nine out of every ten cases of cancer of the stomach. The stools are easily obtained as compared with the withdrawal of a test meal, and the test for occult blood simpler in comparison. "Zoeppritz states that the repeated finding of occult blood in the stools day after day providing all extraneous sources of occult blood have been ruled out is one sign above all others which is characteristic of a beginning gastric cancer. In no other condition is it so constantly present." (Carter.) Neither of these tests are specific but are valuable aids when associated with a carefully taken history.

"The general practitioner will have done his duty when he has strongly suspected cancer in a given case; the exact diagnoses should be relegated to the surgeon and the pathologist" (Manges).

There are two general types of gastric cancer, the *ulcer type* and what might be termed the *clear sky type*. The former conform in general to a gastric ulcer history with a more pronounced loss of weight and strength in a few cases and with but little difference in the majority. The clear sky type develops symptoms of pronounced severity without much warning in so far as gastric symptoms are concerned. The patient, usually a man, first notices a loss of strength followed by a marked loss in weight with definite disturbances developing only at the very last, perhaps only a few weeks before a fatal termination. X-Ray examination of such a case will reveal usually a well developed inoperable annular cancer of the stomach. These cases are not unusual and should always be kept in mind when taking a history in men with however slight a gastric disturbance beyond forty-five years of age.

If the attending physician has not had an X-Ray examination made, the surgeon usually employs it as one of his first steps, resorting to an exploratory incision only in the event that the X-Ray still leaves the true nature of the ailment in doubt. X-Ray examinations will usually determine whether a given case is operable or not. This leaves only a few ulcer-cancer cases needing exploratory incisions. The exploratory incision in such instances should always be accompanied by a frozen section to determine the exact pathology which then governs the balance of the operation. The vast majority, however, will be subjected to a predetermined surgical technic for a definitely known condition or operation refused on account of the extent of involvement.

C. F. B.

THE TUBERCULIN TEST

Tuberculin always produces some form of reaction when introduced, in sufficient quantity, into the system of a person who has previously been infected with tubercle bacilli. There are certain definite exceptions to be mentioned later.

Tuberculin never produces a reaction when introduced, in any amount, into the system of a person who has not been previously infected with tubercle bacilli. There are no exceptions to this rule.

This specific character of the tuberculin reaction has been proved beyond all doubt.

Any of the following conditions may prevent the occurrence of a positive tuberculin reaction in the presence of a tuberculous lesion.

First. Acute early tuberculosis or widely disseminated tuberculosis like the miliary form. In such cases the system is so flooded with its own tuberculin that the power to react is drowned out, as it were.

Second. Far advanced cases. Here the power to react has been worn out, or drowned out as in the first class.

Third. The use of tuberculin for therapeutic purposes may produce an immunity for tuberculin so that a positive reaction to the test cannot be obtained for a time.

Fourth. The presence or recent occurrence of the acute infections, especially measles. In these diseases the power of the system to react to tuberculin is temporarily lost.

Fifth. A small percentage of tuberculous people fail to react, without apparent reason. In a few such cases that have come to autopsy the lesion has been found to be unusually well walled off. It is possible that there was too little absorption of toxines to sensitize the system.

Sixth. Tuberculous lesions that have completely healed.

Seventh. The short period of incubation, demonstrated in animals and probably existing in human beings. During this period sensitization is not complete and reaction to tuberculin will not occur.

All forms of the tuberculin test are effected by the above conditions.

All forms of the test agree in another most important particular. They show by a positive reaction only that the person tested is sensitive to tuberculin and therefore has had an infection with tubercle bacilli at some time. They do not show positively whether the condition at the time of the test is one of active tuberculosis requiring treatment or one of old quiescent disease. Furthermore, the reactions do not reveal the extent of the lesion present.

The tuberculin originally used and still used for this purpose is Koch's old tuberculin commonly known as O.T. The old tuberculin is diluted with normal salt solution containing 1/4 of one per cent of carbolic acid. 1-10 c.c. of O.T. with 9-10 c.c. of the diluent gives the first solution. 1-10 c.c. of this with 9-10 c.c. of diluent gives the second solution and 1-10 c.c. of the second solution with 9-10 c.c. of diluent gives the third solution.

The dose for an adult is usually 2-10 of a miligram of O.T. which is obtained by taking 2-10 of a cubic centimeter of the third solution. From this dose we pass to 1 mgm. O.T. and then to 5 mgm. O.T. with or without an intermediate dose of 2 mgm. O.T. These doses are obtained by taking 1-10 c.c. of the second solution for 1 mgm. O.T. or 5-10 c.c. second solution for 5 mgm O.T. If it is desired to give as high as 10 mgm O. T. it is best to use 1-10 c.c. of the first solution.

The subcutaneous test should not be used if there is a temperature above 100 or if fever has been present recently or if there has been recent hemorrhage. It is somewhat dangerous and as a rule unnecessary to give this test if extensive lesions are present. It should not be used when serious complications or marked dyspnoea or general weakness are present. It would not be wise to use it after the contagious forms, and the other conditions that may prevent a reaction should be considered before employing this test.

There are three forms of positive reaction that may follow the subcutaneous test, the local the general and the focal. The local reaction consists of redness and swelling of the skin at the site of the hypodermic injection. This may be absent or there may be an area of redness as large as a quarter, usually much smaller.

The focal reaction is marked by increased activity at the seat of disease, shown in the lung by an increase in the size and number of roles and in the cough and expectoration. A focal reaction is almost always accompanied by a general reaction but the latter often occurs without our being able to detect the former.

A general reaction is marked by headache pains in the back and limbs, malaise gastric disturbance, and fever which may vary from half a degree to three or even four degrees above normal.

The injections are given in the arm hypodermically, not into the muscles. They should be repeated in 48 to 72 hours.

Reaction begins in 6 to 12 hours, reaches its height in 12 to 24 hours and is gone in 36 hours. One should therefore inject early in

the morning or late at night so that a slight reaction may not be missed. If a slight reaction was missed and an increased does given at the usual time a very severe reaction might occur and permanent damage might be done.

If a patient is awake during the night he should take his temperature then.

A careful record of temperature and symptoms should be kept during the test. The chest should be examined before and after each injection and any lesion in the larynx or on the surface of the body should be inspected to detect a focal reaction.

If any dose produces a clear reaction further injections are, of course, unnecessary.

If any dose, 1 mgm. O.T. for instance, produces a local reaction without any general reaction the same dose should be repeated at the usual interval and will usually give a general reaction. If not a somewhat larger dose may be given the next time.

For children the doses would run from 1-10 mgm. to 1 mgm. O.T. or less.

For practical purposes 5 mgm. seems a good point to stop, as not many active cases will fail to react and not many will react who are clinically well.

A positive local reaction alone has not much value except in the very young.

A focal reaction with signs of increased activity at the site of the suspected lesion is pretty good proof that the lesion is actively tuberculous.

A positive general reaction without a focal reaction indicates the presence of tuberculosis somewhere in the body. It does not tell us whether it is active or not; that we must judge from the symptoms. It does not tell us certainly that a suspicious pulmonary lesion is tuberculous; it might be syphilitic for instance and the positive general reaction might be due to a tuberculous gland in the abdomen or elsewhere. A positive general reaction cannot be regarded as proof that the sickness is due to tuberculosis. Nevertheless, when a positive reaction is obtained by 2-10 mgm. O.T. we may feel pretty sure that active tuberculosis is present and the same if the reaction comes with 1 mgm. provided there are symptoms to confirm the evidence of the test. On the other hand so many well people react to 10 mgm. (or even to 5) that a positive reaction to this dose has very little value.

The most valuable finding is a negative reaction to a dose of 5 mgm. or more. If the conditions mentioned above as preventing a reaction are absent, a negative reaction to such a dose is pretty good proof that clinical tuberculosis is absent. This proof may be accepted if the absence of symptoms confirms it. If it is contradicted by the evidence of symptoms the latter must always be given the greater weight and the negative reaction disregarded. H. S. G.

(To be concluded.)

*THE FIRST AID CONFERENCE**

By 1st Lieut. Joseph C. Bloodgood, M.R.C. (Inactive), Baltimore, Md.

The First Aid Conference met in Washington on August 23 and 24. The call of the Conference was a letter, dated July 30th, signed by a number of chief surgeons of railroads.

The membership of this First Aid Conference consisted of representatives of the Medical Departments of the Army, Navy and Public Health Service, of the American Red Cross, chief surgeons of a number of railroads of the United States, civil surgeons representing national surgical associations, general officials representing the railroads, and representatives of manufacturers of first aid supplies.

In the pamphlet issued to the members of this conference the motto to be adopted was as follows:

Uniformity in methods; standardization of material; fixed, uniform rules for all under ordinary circumstances, without interfering with the surgeon's liberty of action as far as initiative towards better methods is concerned.

The discussion of the first day and evening was confined to the following topics:

Whether it was a good plan for railroads, manufacturers, mines, and other employers of labor to furnish first-aid packages, fixation dressings and stretchers for transportation at convenient places, quickly available in time of accident.

The character of the first aid package: its size, what it should contain, and whether the

*Read before the Association of Military Surgeons of the United States at its meeting in Washington, D. C., September 13-15, 1915.

size and character of the different bandages and gauze pads should vary for different kinds of wounds and for varying environment. That is, would a single first aid package meet all the requirements?

Whether any disinfectant (and if so, what kind) should be placed in the first aid package to be used by the individual or some nearby helper.

Whether these packages should be issued to the individual laborer as they are to the soldier, or whether the packages should be kept in boxes in readily accessible places.

Whether there should be placed a first aid package containing special dressings for larger wounds and burns, and some liquid or solid ointment for the immediate protection of such wounds.

How much should the individual laborer be told about first aid, and the best method of instruction.

This purely first aid problem and the question of an antiseptic received the larger consideration.

The problem of fixation dressings for fractures that is, the character of the splint and how it should be arranged for first aid, was given less attention.

Also the question of a uniform stretcher was not dwelt upon in the discussions, but was emphasized later in the addresses of Drs. Harvey Cushing and George W. Crile.

The transactions which are about to be published will contain these discussions.

Perhaps it is worth while here to give a brief resumé of the opinions of these surgeons who have seen the actual workings and results of a well-organized scheme of first aid throughout a railroad system, and others who at the present time have gotten along without it.

Many railroads in the United States furnish no first aid material, but some of these provide stretchers at convenient places along the line. Their men receive no instruction on first aid. When a man is injured, the orders are to get hold of the nearest doctor, or have someone take the injured to the nearest railroad surgeon. Everything, therefore, is left to the surgeon.

Other railroads, working apparently under the same conditions, have adopted and have maintained for a number of years a scheme of first aid as complete as in the army. Not only are materials supplied, but the men are instructed how to use them.

It seemed to be the consensus of opinion that railroads, mines and other employers of labor should furnish first aid material, and give first aid instruction under the supervision of their surgical departments to their employes.

Those who have adopted such a system are of the opinion that the results are better and the period of disability shorter, and for these reasons it is a distinctly economic gain; without much doubt it is very humane from the standpoint of furnishing the best possible immediate treatment in cases of accident.

More than one chief surgeon on returning to his duties after attending the conference decided to introduce first aid methods.

The majority of surgeons favored a simple first aid package of sterile gauze, the size of the latter varying and the gauze to be fixed by a bandage or adhesive straps. Many favored the employment of the triangular handkerchief of von Esmarch. The majority of surgeons were against giving any antiseptic for the use by the injured or any untrained "good Samaritan." For larger wounds, and especially burns, it was the consensus of opinion that some form of vaseline or oil dressing should be provided, so that it would be readily accessible for such injuries.

The general officials of railroads seemed to be impressed with the importance and the economic value of uniform methods and standardized material. The manufacturers were quite certain that standardization and uniformity would reduce the price of all the materials.

The object of this First Aid Conference was to bring out a discussion of this kind and to demonstrate to all those who participated in the conference that, on the whole, there was a pretty uniform opinion as to what ought to be done. But the materials and the instructions required standardization, and this could only be done properly after further investigation.

The second object of the meeting was the unanimous adoption of a resolution leading to the appointment of a board of Standardization.

This excellent resolution was drafted by Assistant Surgeon General W. C. Rucker, of the U. S. Public Health Service, Major Robert U. Patterson, of the Medical Corps of the U. S. Army, representing the American National Red Cross, and Dr. William L. Estes, Chair-

man of the Committee on Fractures of the American Surgical Association. The resolution adopted is as follows:

Whereas, There is a great lack of uniformity in first aid methods; in first aid packages, and in other first aid equipment; and in first aid instruction, and

Whereas, Many of the aims of first aid are defeated thereby and needless suffering and expense incurred, therefore, be it

Resolved, that this Conference recommends to the President of the United States that he appoint a "Board on First Aid Standardization," said Board to consist of one officer each from the Medical Corps of the U. S. Army, the Medical Corps of the U. S. Navy, the U. S. Public Health Service, the American National Red Cross, the American Medical Association, the American Surgical Association and the Association of Railway Chief Surgeons of America; this Board to deliberate carefully on first aid methods, packages, equipment and instruction and to recommend a standard for each to a subsequent session of this Conference to be called by the Permanent Chairman; the creation and maintenance of the said Board to be without expense to the United States.

This Board of Standardization has been appointed and the names will soon be published.

The object, therefore, of the First Aid Conference was accomplished.

The importance of this meeting—at least in the minds of those who attended it, was shown by the fact that by a majority vote it was decided to make the conference permanent, to call it the American First Aid Conference. The temporary officers were made permanent, and are to act as a responsible Executive Committee. This First Aid Conference will convene again when the Board of First Aid Standardization is ready to report.

The entire proceedings were carefully reported, and a Committee on Publication was authorized to publish the transactions and add to this such other data as they might deem important.

The other features will consist of a summary of the answers to the following five questions:

1. What has been your experience with the most available first-aid package and dressing for small and large wounds?

2. What has been your experience with the immediate employment of antiseptics in accidental wounds; what antiseptic have you used, in what strength, and how applied? Have you employed tincture of iodine; if so, how and what have been the results?

3. What in your experience has been the most efficient and most readily applied method of fixation for injuries of the (*a*) upper and (*b*) the lower extremity?

4. Have you considered the construction of a stretcher, which, in addition to serving as a means of transportation of injured, will have appliances for the fixation of the upper and lower extremity, somewhat along the lines of a Bradford splint, or the Gihon naval splint?

5. Please state your views on some liquid ointment dressing which would be available for first-aid in large wounds and burns, with the object of preventing the usual dry-gauze dressing adhering to the wound and rendering subsequent dressings painless.

These questions have already been sent to all chief surgeons of railroads, mines, manufacturers, etc., to many civil surgeons interested in accident surgery, to military surgeons, and to a number of American surgeons who have had an opportunity to observe the results of first aid in the present war in Europe.

With the hope of getting more information and of stimulating attention to this subject, the secretary of the First Aid Conference has addressed the secretaries of all the national surgical associations and all the State medical societies with the request that first aid committees be appointed.

In this communication it is suggested that these committees investigate the subject independently and report to the Board on First Aid Standardization the results of their investigation.

Apparently this is the first great effort to investigate what might be called the national opinion and experience on a single surgical problem, and to correlate the facts obtained with the expectation of recommending something standard and uniform, which with the simplest means will accomplish the best results. For example, if iodine is good in New York, it should give equal results in every State in the Union, and should be adopted at once throughout the United States. If iodine is unnecessary in the first aid package, there is no reason why everyone should not know it at once.

If this method of obtaining the consensus of opinion of surgeons of this country and of collecting and correlating their experience in accident surgery is successful, and the Board of Standardization is able to formulate uniform methods and adopt standard materials, something more is accomplished than the result in accidental surgery, because, if this is successful here, it can be employed with many other problems in surgery in which there is a difference of opinion and great variation in material and methods for accomplishing the same results.

Again, if this investigation accomplishes what is hoped, first aid will take its definite place in preventive medicine.

* * *

The First Aid Committee for Vermont consists of Dr. C. W. Bartlett, Bennington, Chairman, Dr. J. M. Allen, St. Johnsbury, Dr. Lyman Allen, Burlington.

News Notes

Dr. R. C. Flagg of Burlington will soon locate for practice in Westfield, Vermont.

Dr. C. N. Perkins of Burlington is convalescent after an operation for appendicitis.

Dr. H. S. Martyn of Cuttingsville has returned from Boston, where he was a patient in a hospital.

Dr. W. D. Reid of Barre who is receiving treatment for rheumatism in Battle Creek, Michigan, is improving.

Mrs. Cora Miller Roberts, wife of Dr. George X. Roberts of Chester died suddenly at her home February 15th.

Barbara Hinman Lawrence, aged two years and ten months, daughter of Dr. and Mrs. Harry H. Lawrence, of Putney, died Tuesday night, February 15, after an illness of over a month.

Seven cases of cerebro-spinal meningitis have recently occurred in Brandon, one adult having died. Flexner's serum was used in two cases with apparent success.

Four children were not seen until they were convalescent from the disease.

No new cases have been reported since the eighteenth of February and it is thought that the epidemic is now under control.

The School for Health Officers will be held by the State Board of Health at Burlington, July 5th to 8th inclusive.

Dr. John J. Dervin has been appointed Health Officer of Poultney.

Dr. and Mrs. Wm. H. Grinnell of Rutland have just returned from New York where Mrs. Grinnell underwent a Caesarean operation by Dr. Ross McPherson at the Lying-in Hospital. Both mother and son are in most excellent condition.

* * *

NOTES FROM THE WASHINGTON COUNTY MEDICAL SOCIETY

Dr. A. C. Freeman of Plainfield has removed to Norwich, Conn.

Dr. C. E. Chandler of Montpelier is spending the winter in Florida.

Dr. F. W. Harriman of Montpelier, has been appointed radiologist at Heaton Hospital.

Dr. F. B. Leonard of Boston will conduct an operative clinic at the Barre Hospital Mar. 14, under the auspices of the County society.

C. H. Burr.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 4 $1.00 per Annum

Rutland, Vermont, April, 1916.

Original Papers

ORATION IN SURGERY

JOSEPH COLT BLOODGOOD, M.D.
Baltimore, Md.

Delivered before the Annual Meeting of the Vermont State Medical Society, October 15, 1915.

I have a new subject although I have not a title, but I thought that on any subject of medicine we may have neither a title nor a new subject but we may have new thoughts and facts, and we are attempting in our locality to get new facts in regard to cancer. Every year we are in constant touch with all the patients who have been at the hospital during the last twenty-five years by correspondence with them, and each year as we have more help and more money we are enlarging the group to whom we write. It is very trying and very expensive and so far all the money, which has been given to me personally by friends, has been spent, and has been used chiefly in paying students who have done more work than the money they received compensated them for, but have looked upon it as an education. I hope I am coming to the time when my elective course will be given to students all of whom will be paid to work. You will not be surprised to learn that while they do good work when not paid that they do much better work when they are paid in the matter of leaving a record. Students are looking at the patient and taking a history, but we want them to give a record and do some clerical work, and we cannot expect that of them unless they have some compensation. Secretary Gilman of Johns Hopkins said to me, "I am going to have a post-graduate school in which I shall pay post-graduates for study in advance work." That will give you an idea that we are attempting in our way to get new facts. And really in this country we need more of these places in which we can obtain new facts in regard to medicine. The two papers which have preceded mine demonstrate that there is a great awakening in this country in regard to the necessity of the entire profession keeping abreast of the times. If the minority of the profession can advance why cannot the majority also advance? And both of those papers are a suggestion through which there will be an endeavor in this State to keep all of the members of the medical profession in touch with the things that we are speaking of as progress and advance. You must not think that those in the profession who write are the only men

who have something to say, or whose experiences are the only experiences that we want recorded. A great many men in these United States have experiences and opinions that we would like to get at, but we do not seem able to get at them. You have noticed the remarks made by one gentleman here on the family doctor: that when he dies his knowledge dies with him. Now if a man has practiced medicine for fifty years, and has accumulated something that is valuable, it is wrong for him to carry that with him to the grave. We should be able as a profession to get that record before he dies, if it is worth anything. We are endeavoring in this country to make an investigation along these lines, endeavoring to get the opinions of any men in active surgery on whether first aid in accidents is worth while—in railroads, mines and manufactories. And if it is worth while, what should be the first dressing? Shall it be by bandage that is sewed, or fixed plaster? The wound touched with antiseptic or not? Will you fixate a fracture of the upper and lower extremities? What is the best means of transportation? We have had a convention in Washington and there was just as much difference in regard to it as about the glands of the breast. Milzer has said that many things that were established in medicine are forgotten. That is illustrated in the front to-day. You hear those tremendous remarks of a great number of practitioners of the difficulty of treating them. The trouble is that the surgeon sees very few infections. Our wounds get to the hospital quickly. We do not have compound fracture. The surgeon to-day has no experience. Fifty years ago the surgeon at the front knew better how to treat infected wounds than the surgeon to-day does. That is simply to illustrate in relation to the two previous papers. And it illustrates the obstacles in any propaganda, the obstacles not to educating a small group of men in the splendid environment of an institution, but to educating the larger group of men scattered in all forms of environment. We know—and we can all agree—that the discharge of blood from the nipple does not mean cancer. We are certain of it. Now, all of my own facts favor that statement, that a discharge of blood does not mean cancer, and if there is nothing else there is no indication of a need for operation. Now, why should another surgeon of apparently equal experience make an exactly opposite statement: that the breast should be removed because cancer will develop? Now, as a matter of fact in this case I had the good fortune to be able to deliver the goods in the essential facts, and he had the misfortune not to be able to. Now, what is a man who has not had much experience going to do? Here are two equal authorities, whether good or bad, that would be heard throughout the country. What is the man going to do? Here is one who says discharge of blood from the nipple does not mean cancer and there is no necessity to do anything for it, and the other man says it does mean cancer and you should remove the breast. That is another great obstacle to our progress, the difference of opinion by men of apparently equal authority. Now the making of such dogmatic statements at our first public meeting in New York under the control of the American Society on Cancer led to this outline in the morning press: "Doctors disagree as to cancer." Now, what good would that do you? But here is a concrete case: Two

men have been investigating and writing on a simple point like discharge of blood from the nipple. My feeling is that any man who makes a statement should be forced to deliver the facts on which his statement is based. But then we come to this: This man who says that discharge of blood from the nipple means cancer, the beginning of cancer, should show you the section of the breast removed in which he has found the authority for laying down the diagnosis. I am not building any hypothetical case, but simply giving you the facts. There is the difficulty. Personally I believe the discharge of blood does not mean cancer. I have some fifteen cases observed over twenty-five years. I can show you letters, like any quack doctor can, but I think mine are authentic, and can give you the names and the addresses of the doctors who wrote them. Now if I had said nothing this afternoon but that, it would be sufficient to illustrate the difficulty of educating ourselves and a great number of people in regard to certain facts that are of great importance because we differ among ourselves. All of us have a tendency to make positive statements, especially teachers, without the facts to justify those statements. In the old text books you will find such statements as: "Antimony will cure pneumonia." So you see it is no new field in our profession. But I think we are making progress, and the one great advance of the medical profession is the desire to keep a record, the desire to reconstitute their record; and the surgeons throughout the country are beginning to publish articles based upon records kept for 15 or 20 years, surgeons who are in active practice, surgeons unconnected with teaching schools and whose records are of great value.

Now I will show you a few pictures to illustrate the point of differential diagnosis in breast tumor. I have only taken up discharge of blood from the nipple to illustrate our difficulties.

* * *

Dr. Bloodgood then showed a series of pictures on the screen making the following observations:

No. 1. I have only time to illustrate one point. In every lesion you can take any locality in the body and illustrate this point. In cutting through the fat you see a blue dome and then you know you have a wallcyst. You cut in and find no blood. In my experience you know that is not cancer, and never will be cancer. Yet there are many who disagree with me in this. In the last three years of the sixty cases in which this has been removed, in only one case was there cancer in any part of the breast, and that woman recovered. That is a very common lesion, one of the disappearing lesions of the breast.

No. 2. This is the matter of one of my medical students, operated on seven years ago, and if it was cancer it was cured by the removal of the cyst.

No. 3. This is a medical student, a young woman, who came to see me with a discharge of blood from both nipples, and I told her I could not feel any lump. Years later, the discharge having disappeared, she got a hard lump on the left breast. I immediately cut down and found it was a cyst with a smooth wall, and removed it. I saw her a few months ago, and she told me that sometime before she felt another lump and was going to be operated upon when it disappeared.

No. 4. This shows the growths of a

fatty tumor. If you pull the tumor away from the breast you can see a cobweb tissue. I have had as much opportunity perhaps as anybody where I was not hurried to see these cases and record them, and yet I have never seen that capsule and cobweb tissue outside of fatty tumors. You ask, Why do you show this woman's breast? Well, about four years before I removed it she came with two little tumors, one of seven years and the other of five years. I took them out. Then she returned two or three years later because others were forming. I removed the breast and the tumors. I show this picture to illustrate it.

No. 5. This shows a section of one of the tumors I removed, which proved by diagnosis to be cancer. This cancer had been removed three years before, and when I removed the breast later I had an opportunity to take a section.

Now, gentlemen, you have heard what I have to say, and I think I have said enough to illustrate the point, and we want to give a few minutes for discussion. I thank you for your attention, and if any of you wish to express opinions to me in regard to methods of reaching the public and especially the profession, I want to get your points of view. We are going to spend time and money in educational propaganda. We want to get some results and I do not think we are getting them fast enough. Something is the matter with us.

The Chairman—Gentlemen, the discussion is open.

DISCUSSION OF DR. BLOODGOOD'S PAPER BY DR. TINKHAM

I have very little to say in discussion of this paper. It would certainly be very unbecoming in me to discuss a paper which has been worked out as carefully as this of Dr. Bloodgood's — a paper which is the result of years of experience.

I would, however, like to emphasize the importance of careful history-taking. I wish I could make the idea of its importance so emphatic that every physician here would take more careful histories of his patients, and make more complete records.

While listening to Dr. Bloodgood's clinic this morning and to his paper this afternoon, some things occurred to me of which I would like to speak, simply to emphasize them. First, cancer in all probability, supervenes upon some non-cancerous condition which is pathological — cancer does not develop at once from healthy tissue, but healthy tissue assumes some pathological condition which is not cancerous, and in this changed condition cancer develops. Cancer then, is at first so far as we know, a purely local condition. It is strictly a surgical disease. The chances of recovery from cancer depend very largely, if not entirely, upon early recognition of the disease, and early surgical interference. The only way in which we can make an early diagnosis of cancer is by an early examination of the patient, and that, of course, depends upon the knowledge which the patient has of cancer and their appreciation of the necessity of early recognition and early surgical interference. This knowledge, or the education of the public, must come from the physician almost entirely, — either through individual effort to instruct patients or from some general effort of an organized body of physicians or laymen to disseminate knowledge of cancer. This is your duty and mine — to educate the public with reference to the danger of malignant disease, and the necessity of early surgical treatment.

Dr. Bloodgood, in his clinic, says that it is impossible to make a positive diagnosis of cancer in its early stage, and that pathologists disagree. He gave you a beautiful illustration of fifty cases. Now then, from a scientific standpoint, what are you going to do when you have a suspicious case — when you think there is possibility of cancer — what are you going to tell your patient. What are you going to advise your patient to do? From my viewpoint, the practical thing is to be on the safe side—keep a careful watch of all suspicious cases, and if a mistake is made, let

it be on the side of early surgical interference. It is much wiser, it seems to me, to operate on some cases which are possibly not malignant, than to fail to operate early on cases which are malignant.

Dr. Ball:—It is impossible to question Dr. Bloodgood's statements as he has produced facts in their support. It is not generally conceded that laboratory and clinical diagnosis are so frequently at fault. It appears that the closer we hold ourselves to an accurate diagnosis, the oftener we find that a preoperative diagnosis has to be somewhat modified or altogether changed. Especially is this true in the diagnosis of early cancer — cancer in the curable stage. I am, however, going to presume to show what the X-Ray examination of the stomach shows in so far as concerns the early diagnosis of cancer of this organ.

While waiting for the lantern, I wish to call your attention to a few facts (possibly theories) as to the production of cancer. All cells elaborate a ferment capable of digesting a food supply unless it dies. This is true whether a unicellular or multi-cellular organism. In so far as the proteid elements is concerned this ferment activity must disintegrate the proteid molecule into much smaller molecules than previously used to be deemed necessary, that is peptones, peptides, etc., are yet too large for absorption by the blood stream for sell construction. Abderhalden has conclusively proven that the proteid molecule has to be broken up into the Amino Acids of which there are about a dozen and a half, different kinds, before possible of assimilation by the blood stream. Mendel has spoken of the "habit of growth" being that peculiar property of a cell that causes it to always reproduce itself typical to type bestowed upon it by heredity.

Clinical experience tends to prove that chronic irritation in some way alters the "habit of growth" to such an extent that any typical cell develops or is reproduced instead of the true type. Otherwise stated chronic irritation alters a cell's habit of assembling a definite number of amino acids for its specific needs. It either tries to use too many of one kind and not the normal proportion of another or vice versa, so that it finally accomplishes the construction of a cell particularly active in its reproduction propensities as an effort towards counteracting the baneful influence of its irritating enemy. With these statements in mind, I wish to show evidence of early cancer invasion of the stomach as shown by lantern slides made from X-Ray plates taken after a bismuth meal. It should be stated that all these cases have been proven correct by operative findings in each case shown. Chronic irritation productive of the cancer in these cases brings some form of indigestion lasting for long periods of time.

Dr. Ball then showed his slides on the screen.

DIPHTHERIA CARRIERS

W. O. Ott and K. A. Roy, New Orleans (*Journal A. M. A.*, March 11, 1916), describe a method of treatment of diphtheria carriers which has given good results in the small number of cases that they have had a chance to use it and hope that further experience by others will prove its real value. The cases they report were patients convalescing from clinical diphtheria in the infectious ward of the Charity Hospital, New Orleans, and a few who did not have diphtheria who were persistent carriers. In some of them other methods have been repeatedly tried and failed. In all the reported iodized phenol (acid carbolicum iodatum, N. F.), containing 60 per cent. carbolic acid, 20 per cent. iodin crystals and 20 per cent. glycerin. In pharyngeal cases the tonsils, uvula and posterior wall of the pharynx were swabbed every forty-eight hours until negative cultures were obtained, and in nasal cases the entire anterior part of the nasal cavity was thus treated. Care was taken not to allow the preparation to run over the face or drop into the larynx. Cultures were always made a few minutes before the local application. In some cases one application sufficed and only one patient received more than six applications or was under treatment longer than eleven days. Fifteen of the seventeen patients were followed after leaving the hospital and negative cultures obtained in all. No bad results were noticed from the use of the applications. It is painful for a half minute or less until the anesthetic action of the phenol comes into play. The authors do not say how the remedy acts. The phenol probably does not reach the organisms in the crypts of the tonsils, but it may permit the more thorough penetration of the iodin.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

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All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.

The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., April, 1916.

Editorials

MEDICAL PREPAREDNESS

To organize an impromptu Medical Service in time of war is said by experts in the matter to be as impossible as to organize an impromptu army of disciplined soldiers, for it does not by any means consist in a collection of medical men from civil life, who, by virtue of their commission, are abruptly endued with the requisite qualities and endowments for their new office. Not even skill in operative surgery and acquaintance with the treatment of wounds made by bullets, bayonets and shell-fragments, desirable as these attainments are, can turn the civilian surgeon into the military surgeon. The base hospitals in France are, to be sure, in the hands of civilian operative surgeons and their work has been beyond all known words of praise, but the Military Medical Service has had little if anything to do with the base hospitals. The Medical officers do not treat diseases, but look after sanitary conditions, organize and direct the various relief and transportation agencies, and ensure the bringing up and distribution of necessary supplies so that the sick and wounded may receive prompt and proper care.

The sanitary plans are as important a part of the general plan of campaign as are the tactical plans. The medical service must study, or know, the physical characteristics of the country, the presence of infectious diseases among the inhabitants, the purity of the water supply as well as its abundance, the temperature, humidity and the varying influence of the different seasons,—in fact his business is not to operate on the wounded, but to keep the soldiers fit. Ambulance service, railroad service, hospital service, supplies and equipment are all under his supervision and he must see that every necessary indication is foreseen and supplied, but he does not have much more to do with the hospitals personally than with the railroads and wagon roads. During and after a battle, he is in charge of removing the wounded to the base hospitals, and when different hospitals are set aside for different injuries, he must see that the requisite dispositions are made smoothly, promptly and with the maximum of safety to the wounded.

Such are his principal functions as a

Medical Army officer. To see that the wounded receive proper and skillful care in order that they may return as early as possible to the front, is of course included therein. The first aid treatment is given by the regular medical officers at the front, and a preliminary examination to determine approximately the character and extent of the injury with reference to the proper disposition of the wounded soldier, whether to the field hospital, the emergency hospital or the base hospital.

Although the efficiency of the Medical Service of the United States Army is generally acknowledged to be excellent, yet it is out of all proportion to our possible needs, since it is scarcely half as strong as is necessary today for the needs of our army, which is ridiculously small even on a peace basis. There are 444 medical officers in the army. That tells the story of our present preparedness. With a toy army, in time of peace, we are without adequate Medical Service.

For many years the need of a larger army has been acknowledged by the every-day citizen. Since the European War began, that need has been brought home pretty closely to the American people. The President seems to favor it, and the officers of the Army are insistent upon its urgency. But what earthly use would be an army of one or two or three million men (assuming a number immensely beyond all present estimates), unless the Medical Service is correspondingly increased? Every company of one hundred men needs a medical officer. Less than that invites disaster, for whatever form of re-organization may be finally, or for the time being, adopted, disaster will certainly attend an inadequate or inefficient medical service. Upon the Medical Corps rests to a very large extent the whole question of success or failure in war. The absence of typhoid fever from the armies now in the field is entirely due to Medicine, and the results of improved surgical methods has reduced the mortality among wounded soldiers to about four or five per cent. To see what that means, look up the statistics of earlier wars, neglecting, as a matter of self-respect, our own record in 1898.

New medical officers may be convoked in scores, but years of discipline and practice are necessary for their training. For one thing, soldiers have no respect for civilians in an army, or for impromptu officers who are unfamiliar even with the terminology of war. And the worst of the matter is, the soldiers are perfectly right, for if the new officer fails in this preliminary inspection, he has henceforth but a shadow of authority. This seems like a trivial thing, but discipline, obedience and the morale of the men depend on a hundred things each in itself just as trivial. The medical officer must be a trained soldier as well as a trained doctor, or he will be as much out of place as a banker at the head of a regiment.

This is the service, the Army Medical Corps, which will be the first to fail to meet the demands of a largely increased army. Of the two bodies of medical men upon which the Government can call to fill the newly created demands for medical service, the surgeons of the National Guard may be almost entirely passed over as of not much better training for special military service than any other civilian surgeons. In this light also the Medical Department of the Army regards them, since in a proposal submitted by the Surgeon General to the Mili-

tary Committee on January 26th, 1916, for the reorganization of the Army Medical Department, it is expressly provided that "Volunteer medical officers can be appointed only from the Medical Reserve Corps."

There remains the Medical Reserve Corps, a body of 1650 men, who have passed the physical and professional examinations necessary for enrollment and have received some instruction in their prospective duties in the event of their being summoned to serve in the Medical Corps of the regular army, but their familiarity with the details of field and camp service, as well as their discipline in the practical application of these details, is no more than can be attained by a series of examinations given by correspondence. That is to say, even the officers of the Medical Reserve Corps have never been required to submit to the training of a camp and they have no experience whatever with practical service in the army. They have the standing only of volunteers. There are eight Vermont physicians enrolled in the Medical Reserve Corps, (our details are taken partly from the Roster of the Corps issued by the Government, January 17, 1916), which is about our due proportion to population, but although they are good men, selected and tested, they are not trained and disciplined soldiers.

Realizing the gravity of the Army Medical condition, the Department has announced that summer camps of instruction for surgeons of the Medical Reserve Corps and of the National Guard will be established at Anniston, Ala.; Tobyhanna, Pa.; Sparta, Wis.; Fort Riley, Kan.; and Monterey, Cal. These provisions seem to us painfully and pitifully inadequate for the purpose for which they are intended, besides involving an injustice to the Medical Reserve Corps. Instead of five camps, there should be one in every state, and instead of ten days for each squad, there should be a month for all—or two months, with pay, equipment and expenses. Moreover, not a summer camp for doctors alone, nor a course in the Army Medical School or the Scranton Correspondence School for Patriotic Surgeons,—but the stiff discipline of personal training in the practical application to camp life of the great principles of hygiene, sanitation, prophylaxis, bacteriology, as well as ambulance, transportation and supply service, will alone fit the surgeons of the Medical Reserve Corps for actual and effective army service.

DOCTOR HENRY B. FAVILL

After the March number of VERMONT MEDICINE was made up came the news of the death of Doctor Henry Baird Favill of Chicago, and we take the first opporunity to record our appreciation of his life and services to the cause of Medicine.

Doctor Favill was born in Madison, Wisconsin, August 14, 1860, and was in his fifty-sixth year at the time of his death on February 20th, last. He came partly of Indian stock, counting proudly among his ancestors a chief of the Ottawa tribe, Kewinoquot. Educated at the University of Wisconsin and Rush Medical College (1883), he soon became Professor of Medicine in the Chicago Polyclinic, then Professor of Therapeutics and later Professor of Clinical Medicine in Rush. These dry facts tell us nothing of the wonderful activity and intellectual energy of Doctor Favill. Good government, municipal improvement, and sanitation, felt the stimulus of his fine personality. One of his friends said after his death that "he was interested efficiently in more activities outside of his profession than any other physician in the country," every effort toward civic improvement and efficiency enlisted his keen sympathy

and called for his active aid. Within the profession his most important work, that by which he influenced the greater number of his fellows, was doubtless the work he did as Chairman of the Council on health and Public Instruction of the American Medical Association. This work cannot be overestimated and it will not be easy to replace him in this position. His clear mind, his large sympathies with all that is noble, his unselfish purpose marked him an exceptional man.

We wish it were possible to reproduce here in full the address he delivered at the public meeting of the Medical Society of the State of Pennsylvania last September entitled, "The Public and the Medical Profession," but we have space for but a few extracts.

"The more thoroughly human affairs are investigated, the more underlying causes for social conditions are discovered, the deeper becomes a knowledge of social pathology.—the more manifest it becomes that mental, moral and physical values in human affairs are ultimately questions of health."

"Co-operation between medical forces and the lay public is becoming marked. A reciprocal function in the progress of matters of public health is clearly recognized. To a very large extent this is due to the vision and devotion of sociologists. To a very large extent it is met and made effective by the organized policy of the medical profession. Those who are thoroughly familiar with the situation recognize a common ground upon which physicians and laymen meet with thorough recognition of their mutual dependence."

"The public is gradually learning facts, the profession is gradually learning its function, and side by side they are moving and destined to move toward enormous results. As barriers disappear between medical and non-medical activities, community of thought and interest becomes obvious. It is inevitable that the artificiality and superficiality of relations shall disappear in consequence and there is reason to hope that in the years to come the medical profession will assume an importance and render a service such as has never before been approached."

"The general subject of public health, in spite of its tremendous development in recent years, has not been properly co-ordinated with the medical profession. In spite of the fact that initiative and insight in public health matters have come primarily from physicians, there exist two fundamental defects in organization and development of the enterprise."

"The public has never intelligently estimated nor fairly measured the contribution to public welfare embodied in the labor of enlightened physicians who stood behind the move. The rule is that any measure of importance dealing with health advancement, particularly through legislative measures, has been met with indifference, discredit, or active opposition from large groups of citizens. The basis of opposition has varied. As a rule, selfish interests have organized the opposition. Frequently they have been able, through skillful manipulation and adroit play upon the prejudice of the public, to muster formidable forces from the ranks of people who are not selfish in the matter but who are ignorant of its true bearings, and upon various fallacious hypotheses suspect an invasion of their rights."

"I know of no department of social effort in which the underlying motive in promoting public legislation has been so altruistic on the part of its sponsors. I know of no field in which the basis of opposition when traced to its root has been so sinister. The public does not see clearly what is at stake. When it does, the difficulties upon this score will melt away. It is true in this direction as in others, that public sentiment must move reasonably abreast of legal enactment."

"The path before the medical profession is clearly and simply education of the public."

"The greatest obstacle to co-operation invariably is distrust. The greatest incentive to co-operation is recognition of community of interest and confidence. Gladly submitting to that judgment, the medical profession demands that it be not judged by vicious and perverted standards, but in so far as it brings to bear upon the questions of public welfare, intelligent, scientific and disinterested effort, it shall be accorded on the part of the public, co-operation. It asks no more."

We know of no utterance that more clearly discerns and more definitely states the exact relations that must exist between the profession of Medicine and the public in general in order to secure the best results of preventive medicine to the community and to the State. A man of keen perception, of mature judgment, of altruistic sentiment and of marvelous activity has left us.

Secretary's Page

This issue contains the annual roster which the Secretary is directed by Section 2 of Article II of the By-Laws to compile on April 1st of each year.

Although this number should go to only those whose dues are paid for the calendar year 1916 it is being sent to all who were in good standing in 1915. If your name is not in this roster your dues have not been received by the Treasurer and your membership lapsed March 31st; also your medico-legal defense insurance has expired. Section 4 of the same article provides that any member who has been dropped for the non-payment of dues may be reinstated by paying all arrears.

Send your check at once to the Secretary of your County Society and continue your good standing in your County, State and National Medical Societies.

The Post Graduate courses were especially good during March.

Good talks and clinics were given at well attended meetings at the following places:

Middlebury.—Dr. P. E. McSweeney of Burlington.

Burlington.—Dr. W. G. Ricker of St. Johnsbury.

St. Johnsbury.—Dr. W. W. Townsend of Rutland.

Rutland.—Dr. Thos. Ordway of Albany, N. Y.

Montpelier.—Dr. Lund of Boston.

On the whole this course is proving a success. Usually the attendance has been good, but once or twice the local men were not interested enough to remember the date.

The Committee regrets that the January, 1916, issue is practically exhausted and copies will be required for binding this volume.

Will any one having extra copies send them to the office of VERMONT MEDICINE, 52 Grove Street, and the postage cost will be returned or ten cents per copy paid as requested.

This will be a great favor to the Committee.

One more word about our friends, the advertisers.

No one is solicited to take space because this is the official organ of the Vermont State Medical Society but purely as a business proposition.

If you don't write them and show them that their "ads" are read they will have no smile for the one who solicits renewals.

But if you do write to advertisers about the products that interest you the business manager who seeks renewals will need no other argument.

Congratulations to the Secretaries of the County Societies for their good work in getting in 1916 dues!

ENFORCEMENT OF ORDER OF BOARD OF HEALTH

New York Court Decides that a Board of Health cannot Prescribe the Penalty for Violating its Order after the Order has been Disobeyed.

The board of health of the city of Carthage, N. Y., issued an order to a resident of the village prohibiting him from pumping the contents of his cesspool on the ground, but the board did not prescribe a penalty for disobedience.

The order was disobeyed, and the board, after a hearing, imposed a penalty of $50. The defendant appealed to the courts, and the Court of Appeals of New York decided that the board should have decided upon the penalty when the order was adopted, and that "the board was without power, after the order had been disobeyed, to prescribe for the first time a penalty for a wrong already done."—*Public Health Report*, April 7, 1916.

INTERPRETATIONS OF THE HARRISON LAW

Mr. John J. Donovan of Boston, Inspector under the Harrison Act, was in Rutland on business and consented to meet some of the Doctors at the Rutland Hospital March 17th and give them such information as he could regarding the working of the Harrison Anti-Narcotic Law. The following is what he said in part:

You must keep a copy of every prescription you write because under the terms of the law when a doctor prescribes he dispenses. You have to put on it the patient's name and your name and register number.

Q. Is it permissible to keep copy of the amount used without the whole prescription? A. That is all you need to keep copy of is the narcotic; if a mixture we don't care.

Q. What about the use of cocaine in office practice? A. If you are using an exceptional amount of cocaine you must keep track of it, patient you use it on, but if only using a small quantity, it is permissible to put a label on the back of your bottle, mark when you have the bottle filled and mark when emptied. In a way you are a specialist if you are doing eye work or nose work; although you haven't a degree as specialist, you are a specialist on that thing.

Q. Now what about the use of Orthoform and other synthetic preparations? A. Any synthetic substitute of cocaine must be dealt with the same as straight narcotics.

Q. For instance, if I should prescribe orthoform in an ointment for external use with other drugs, would it be necessary to make narcotic a prescription of that? A. Yes, sir.

Q. Now how about the use of narcotics for those whom the physician believes to be narcotic addicts? A. Well, that is a question that has a great deal of latitude; if in your opinion a person is an addict and must have morphine you must prescribe it, just as much as you think they need. Here is the whole idea,—if you meet a fellow that is in drink, you prescribe a quart of whiskey and tell him to use it as directed, you know just how he will use it. If you get a morphine fiend and prescribe an ounce to be used as directed, he can use it as he wants to, which doesn't go. The whole thing is good faith, that is all, on the part of the physician. If we find you are not doing that or the patient is not doing that, then we are going to go after you.

Q. What about the use of narcotics by nurses? A. Nurses have no right to have in their possession any narcotics, unless working on a case for a physician and he is using narcotics in that case. She can only have them by permission of the physician for whom she is working.

Q. Now what narcotics are not included under this law, what preparations, what strength? A. Not any.

Q. Haven't you anything we are specially in need of here in Vermont, any statements? A. I don't know of anything, Doctor. If you think of anything, shoot it at me and I will answer. If a man comes to your office and tells you he is a dope fiend and you are satisfied he is and you prescribe a grain of morphine for that man, that is in good faith; but if you make no diagnosis and you prescribe for him, why, then you are in wrong. If a patient is in

good faith and the doctor is, there is no danger of trouble. If you go beyond one dram at a time, you are stepping over. If you give an ounce, they are going to use it at their own discretion and that isn't right, that isn't good faith. If you go beyond that, I should say you were over-stepping.

Q. You said the Government does not wish to dictate to doctors how they should practice medicine? A. The Government does not intend to, but we hold him to good faith.

Q. You are required to state some specific diagnosis if you prescribe? A. Absolutely.

Q. On the prescription blank? A. Absolutely. If for cough, you have to say for cough; if for asthma, you have to say for asthma; if habitual, you have to put on habitual.

Q. Any new decisions since those were published? A. No, haven't had a thing since 5th of November. I imagine they are going to re-model the law.

Q. Where could one secure a copy of all the decisions that have been rendered on this law? A. Have to send to the Printer of Public Documents, at Washington. Will cost $1.75 and you will get them just as fast as they print them.

Q. They send them to you? A. Just as fast as they come. It is just a matter of horse sense.

Q. How about ascending doses in chronic cases such as malignant growths, asthma, or tuberculosis? A. May show ascending dose in any chronic condition.

Q. Should the internal registry number be printed on blanks? A. I should say no, because if lost blanks could be used by anybody who finds them with the correct number thereon.

Q. If a druggist is unable to fill a prescription for full amount, what should he do? A. Fill what he can and require another prescription.

J. M. H.

In Memoriam

DR. EDWARD O. WHIPPLE

Dr. Edward O. Whipple, the most useful citizen Danby possessed for half a century, was the son of John and Clarisa Oaks Whipple, born at Athens, Vt., June 20, 1820. He commenced the study of dentistry at 16 years of age and medicine at 18, with Dr. Aaron Morse of Hyde Park, Vt., with whom he remained two years. He then read for a year with Jehiel Smith of East Randolph, a disciple of the Thompsonian school. He was not satisfied with this course, however, and read three additional years with Dr. S. W. Thayer and P. D. Bradford of West Randolph. He then entered the Castleton Medical College, graduating from that institution in 1847. Dr. Whipple came to Danby in 1848 and immediately commenced the practice of medicine, quickly gaining the confidence of the community. In 1867 he spent nearly a year in post-graduate work at Bellevue Hospital, New York City.

Sept. 26, 1848, he married Augusta, daughter of Zadock and Sarah Sawyer, her death occurring Nov. 19, 1892. One son, Dr. Frank Whipple of San Diego, Cal., was born to them in 1857.

On April 23, 1896, Dr. Whipple married Katherine, the widow of Wm. Pierce.

He was a member of the Masonic and Odd Fellow fraternities and an honorary member of the Rutland County and Vermont State Medical Societies. His death occurred March 11, 1916, from senile debility. Funeral services were conducted by the Danby Masonic Order. He was in active practice at Danby sixty-five years, being present at the birth and death of six generations in some families.

WILLIAM H. GRINNELL.

DR. JAMES W. GREGG

Dr. James W. Gregg, for over 40 years a medical practitioner in Brattleboro, died at his home February 2nd, 1916, of angina pectoris, after an illness of about an hour's duration. He was born in Scotland, March 20, 1843, came to this country at the age of seven and since then had always lived in Vermont. He attended school at Newbury Academy, took a course at Eastman's Business College and in 1866 received his medical diploma from Dartmouth College.

Dr. Gregg began the practice of medicine in Corinth, Vt., but after six months removed to South Ryegate, coming from there to Brattleboro in the fall of 1875. In April, 1867, he married Luthera Cochran of Ryegate, Vt., who, with two sons and two daughters, survives him.

"Dr. Gregg was a man of the highest character and integrity, a citizen who enjoyed the respect of the community, a man well informed not only in matters pertaining to his profession but in various other lines of endeavor."

One friend, a doctor who had known him for years, says of him, "No physician in the vicinity was held in higher esteem for integrity and soundness of judgment. He was truly one of the old school to whom commercialism in medicine was unknown." Another physician who had "known and admired" Dr. Gregg for the past thirty-five years, writes, "I recall his ability to discuss extemporaneously and with the utmost ease the carefully prepared papers read before the Professional Club and also at our medical meetings. It was my privilege to meet him many times in consultation, and I always admired his intimate knowledge in all branches of medicine and his great devotion in everything pertaining to the interest and welfare of his patients. There are all too few of these loyal and devoted practitioners in these latter days and when one is removed it is rare indeed that the vacancy can be filled."

Hyperchlorhydria.—From an analysis of 300 cases of gastric hyperacidity by Piersol, it was shown that in 156 the abnormality in the gastric secretion was the result of a primary functional disturbance of the stomach, namely, hyperchlorhydria, while in the remaining 144 cases the hyperacidity was symptomatic of gastric dilatation, gastroptosis, gastric ulcer, gall-stones, etc. A further investigation of the 156 cases of hyperchlorhydria *per se* demonstrated that this condition is most commonly encountered during the second and third decades of life, that it is more frequent in men than in women, and that it is most often encountered in those who live under mental strain. Careless habits of eating, and the use of coffee, alcohol and tobacco predispose to its occurrence. The symptomatology of hyperchlorhydria was found to be variable and the gastric symptoms usually regarded as characteristic did not occur with sufficient constancy to be of definite diagnostic significance. The digestive power of the stomach was found to be good in hyperchlorhydria. Anemia was not as a rule found to accompany hyperchlorhydria.

Progress in Medical Science

TUBERCULIN TESTS

(Concluded from March Number)

The simplest and safest form of the tuberculin test is the Von Pirquet skiu test. This test is made on the flex or surface of the forearm as the skiu there is more sensitive thau elsewhere. The skin is cleaned with alcohol, one drop of O.T. full strength is placed on the skin and an abrasion is made with a borer passed through the drop of tuberculin. This borer resembles a small drill about 1½ mm. across. A very little color may be drawn with the borer. One or two scratches may be made with a ueedle or scalpel and a drop of O.T. placed over them. As in the first method a trifle of blood or colored serum is desirable but any larger amount of blood will hinder the reaction. The tuberculin is allowed to absorb for teu minutes, when the excess is wiped off. No dressing is needed.

A second abrasion or scratches should be made near the first one but should receive no tuberculin. This serves as a control.

After 24 hours the arm is inspected and the abrasion to which tuberculin was applied is compared with the control abrasion.

If there is no difference between the abrasions the reaction is negative. If the reaction is positive there is an area of redness and infiltration around the inoculated abrasion while there is more around the control. This inflamed area may be from 3-16 to 1-2 an inch in diameter or even much larger. There may be vesiculation if the reaction is severe. This reaction generally begins 4 to 6 hours after inoculation, reaches its maximum in 24 to 48 hours and gradually subsides. It may come on very rapidly, beginning in 4 to 6 hours, reaching its height in 10 to 12 hours disappearing on the second day or sooner. This form is thought to occur most frequently with active disease that is not inclined to heal.

A slow reaction beginning as usual but taking 48 hours or more to become complete and a late reaction beginning only after 24 hours or more, are supposed to occur in patients with inactive disease.

In scrofulous children elevated nodules may appear around the inoculated abrasion and sometimes over other regions.

This test is much more delicate than the subcutaneous test. It is positive in 80 to 87 per cent of city children at the age of 15 years.

The same conditions that will preveut a positive subcutaneous reaction will prevent a reaction to the skin test that is acute or disseminated or rapidly advancing or terminal lesious, acute infectious diseases, etc.

During the first year of life reactions are very uncommon in healthy children. Consequently a positive skin reaction at this age or even in the second year is strong evidence of active tuberculosis.

After the age of two, positive reactions in cliuically well people increase so rapidly that a positive reaction soon ceases to have any value whatever.

On the contrary, if the conditions which prevent a reaction are absent, a negative skin reactiou excludes active tuberculosis with considerable certainty.

The conjunctival or eye test is best performed by dropping one drop of a one per cent solution of O.T. in normal salt solution, into the inner canthus of the eye while the lower lid is drawn down and the eye is turned outward. No lachrymation should follow. Any considerable flow of tears prevents the reaction. The same condition which prevents a reaction to the other tests will prevent it with this test.

If the reaction is positive the conjunctiva becomes reddened, begiuning at the inner canthus. It may be limited to this region or may involve the entire conjunctiva; the latter is a severe, the former a mild reaction. If no difference between the two eyes can be observed the reaction is negative. Early, evanescent or late reactions may occur but have no established meaning. The redness disappears in 2 to 6 days, according to the severity of the reaction.

There is some danger of serious injury to the eye if certain conditions are not observed.

An existing inflammation of the eye or a history of past inflammation, especially if phlyctenular, is an absolute bar to the test.

The eye test should not be given in scrofulous children or in old people because of the danger of corneal ulceration in such cases. It should not be used when there are skin lesions, such

as eczema on the face, especially if the lesion is near the eyes.

Never use tuberculin stronger than 1 per cent solution of O.T.

Never use the test in the same eye twice. If necessary to make a second test use the untested eye. No third test can be made.

The eye test is much less delicate than the skin test. Many clinically tubercular people fail to react to it, consequently a negative reaction is of no value.

A positive reaction to the eye test is thought to indicate active tuberculosis with a fair degree of certainty, but would hardly be conclusive if there were no symptoms of tuberculosis.

Recrudescense of the skin or eye reaction may be produced by subsequent use of the subcutaneous test, and at times the secondary reaction in the eye is so violent that the subcutaneous test has to be abandoned. For this reason the eye test should not be used if it is desired to use the subcutaneous test later. The therapeutic use of tuberculin may also cause a recurrent eye reaction.

The other methods of using tuberculin as a test such as the moropercutaneus endermic test, the subcutaneous—local, the nasal, and the urethral tests offer no advantages, for diagnostis purposes, over the others and for various reasons are not commonly used.

The tuberculin tests are most useful in that class of cases presenting symptoms of tuberculosis together with slight changes in physical signs indicating a pathological condition of the lung, neither very intense nor very extensive, the nature of which is uncertain. Under these conditions a positive eye test with one drop of one per cent solution O.T. points strongly toward an active tuberculous condition in the suspected area. A negative Von Pirquet skin test is still stronger evidence that the lesion is non-tuberculous or at least not active, provided the usual causes of negative reactions are absent.

In this class of cases the subcutaneous test is justifiable because the general condition of the patient is generally pretty good and the lesion is not sufficient to make a focal reaction dangerous. A positive general reaction to this test points to active tuberculosis but is not as strong evidence as a positive eye test while a negative result is less convincing than a negative Von Pirquet. The positive focal reaction is, however, a demonstration that the lesion in question is both tuberculous and active.

Where there are already changes in physical signs this focal reaction can generally be recognized. Where there are no changes in the physical signs or at most only indefinite changes a focal reaction can seldom be recognized even if a general reaction is obtained.

Tuberculin tests are, therefore, of diagnostic value in only a rather small class of cases of pulmonary tuberculosis. In most cases the diagnosis can be made without it or there are reasons why the test is undesirable.

In tuberculosis of the larynx, bones, glands, kidney, etc., the various tuberculin tests are of more or less aid in diagnosis. A focal reaction to the subcutaneous test is always conclusive but we must always consider whether the extent or location of the disease would render such a reaction dangerous. For instance, large intrathoracic glands have been known to swell and cause rapid death by suffocation following a subcutaneous injection of tuberculin. A positive eye test indicates that the lesion is tuberculous if other lesions can be excluded and is more positive the younger the patient. A negative Von Pirquet has the usual significance.

In all cases negative reactions should be considered fallacious if symptoms and signs point strongly in opposite direction.

H. S. G.

STATE HEALTH DEPARTMENTS FIGHTING CANCER

New York "Health News" Urges Vigilance and Early Surgical Removal. Delay Chief Cause of High Death Rate.

Among the many agencies now active in the campaign against cancer, several of the most progressive state boards of health are making notable efforts to spread the gospel of hope which is found in the early recognition of the danger signals of the disease and its prompt and competent treatment. The health authorities of Massachusetts, New Hampshire, Ohio, Indiana, Michigan, Virginia, North Carolina, Kentucky, West Virginia and Idaho have been especially active in disseminating trustworthy

information and advice about the prevention and cure of cancer.

The New York State Health Department, under the leadership of Commissioner Hermann M. Biggs, is the latest to enlist its forces in the war against cancer. The entire March number of *Health News,* the Department's Monthly Bulletin, is devoted to consideration of the nature, prevalence and treatment of malignant disease with the object of creating among the people "a healthy vigilance which leads to the taking of expert advice on the first appearance of danger signals."

"There is nothing that any one of us can do to prevent the occurrence of cancer except in avoiding certain specified causes of local irritation," says *Health News* in an editorial which opens the discussion. "On the other hand, there is incontrovertible testimony as to the probability of its cure in a large percentage of cases if taken in time. That cure consists in the complete surgical removal of the growth at the earliest possible moment. Early diagnosis, early removal — there is not now nor has there ever been any other successful method of curing the disease."

The leading article in this special issue of the Health Department's Magazine is by Dr. Francis Carter Wood, Director of Cancer Research at Columbia University. Additional papers are contributed by other notable figures in the scientific world, including Frederick L. Hoffman, LL.D., statistician of the Prudential Insurance Company and Chairman of the Statistical Advisory Board of the American Society for the Control of Cancer, and Dr. Harvey R. Gaylord, Director of the New York State Institute for the Study of Malignant Diseases.

Writing on "What People Should Know About Cancer," Dr. Wood endeavors to dispel some of the mistaken popular notions which have grown up regarding this disease. He disposes of the stories regarding "cancer villages," "cancer houses," or "cancer belts," briefly showing that the occurrence of a number of cases in a house usually is due to the fact that the occupants are old people; that "cancer villages" usually are small towns from which most of the young people have emigrated, and that in like manner "cancer belts" are found to be sections of the country where the population is distinctly aged.

The idea that cancer is hereditary is likewise made light of by Dr. Wood and he declares that there is no reason whatever to worry because one member of a family has suffered from the disease. "It does not at all follow that any other member of a family will have it," says Dr. Wood, and quotes from the laws governing statistics to show that if there are two or more cases in a family it is due purely to chance.

The quackery which is practiced by unscrupulous people in the treatment of cancer is severely censured both by Dr. Biggs and by Dr. Wood. It is made perfectly plain that cancer is comparatively easy to cure if it can be taken in time. The Bulletin declares that if the simple truth is thoroughly established that cancer begins in comparatively innocent form and in most instances in a recognizable form, it can be successfully combated. Dr. Hoffman in his paper emphasizes "the supreme importance of the earliest possible diagnosis and the incalculable value of the earliest possible medical and surgical treatment." Dr. Wood puts stress on the declaration that if the disease can be diagnosed in its early stage, the cancer can be removed with very great possibilities as to permanent cure. "The Commissioner of Health takes this opportunity," says Dr. Biggs, "to warn the people of the state against the expenditure of money — often ill-afforded — the raising of false hopes and, above all, the waste of precious time through the use of alleged cancer cures and consultation with their unscrupulous purveyors."

—*Press Service, American Society for Control of Cancer.*

HOSPITAL SUPPLIES FOR FRANCE

We have just received a letter appealing to the physicians throughout the United States in behalf of the fund devoted to purchasing physicians' and surgeons' supplies for the use of the French Hospitals. When we consider the number of hospitals in France which are required for the care of the wounded, and when we remember that for twenty months, day and night, operations have been performed and dressings and medicines needed for the immense number of wounded and mutilated soldiers of the French army, we can readily believe that instruments have been worn out and necessary supplies have run short to the

point of exhaustion. Where everything is lacking it is difficult to specify the supplies most needed. Scalpels, scissors and all kinds of surgical instruments; thermometers, hotwater bottles, bedpans, rubber gloves and sheets, and syringes; bedsheets, blankets, hospital garments and flannel shirts,—in fact, everything in the shape of hospital supplies is running very low. England makes no especial appeal, for the conditions there are different from those in France. Italy and the Teutonic Empires also are presumably able to take good care of their wounded soldiers, but France is in dire need of a kind of help that appeals strongly to physicians.

The "War Relief Clearing House for France and her Allies," pleads for help for the French hospitals, and the P. S. D. Fund of 16 E. 47 St., New York City, formulating the appeal to the Physicians, Surgeons and Dentists of the U. S. will receive and forward the needed supplies. Dr. C. N. B. Camae, Dr. Foster Kennedy, Dr. Wm. H. Ordway, Jr., and Mr. Witney Warren constitute the Executive Committee of the P. S. D. Fund, and their names are a sufficient guaranty of the sincerity of the appeal and of the proper use of the money received by the Committee. They ask that each physician will pledge himself to send his check for two dollars monthly from January, 1916 to the end of the year for the maintenance of the hospitals in France. We earnestly hope that the physicians of Vermont will not neglect to lend their aid to this urgent cry for help. Checks should be drawn made out to J. P. Morgan & Co., P. S. D. Fund and sent to "P. S. D. Fund, 16 East 47th St., New York City."

By way of prevention, medical men should refrain from disseminating the knowledge of habit-forming drugs, except, of course, as they are called upon to do so in the treatment of addictions, should refrain from alluding to them in facetious vein, and should influence where they can, the lay press to do likewise. Others who may help in this direction are those who necessarily, in the course of their daily occupation, obtain a varying amount of this knowledge—the pharmacist, the nurse, the veterinary surgeon, the manufacturing chemist, and the lawyer (*Medical Record*, Mar. 18.)

Propaganda for Reform

Colloidin.—Colloidin (Boracol Chemical Co., agents) is claimed to be "A Colloidal Vegetable Iodine Combination," each tablet of which is stated to represent 1-3 grain iodin. Because of the colloidal character of the iodin compound. Colloidin is claimed to be an especially efficacious iodin preparation. The Council on Pharmacy and Chemistry reports that Colloidin is ineligible for New and Nonofficial Remedies because, as shown by examination in the A. M. A. Chemical Laboratory, the iodin was deficient in amount and in a form of an iodid or in a form which so readily yields iodid that the therapeutic effects of Colloidin would seem to be those of iodids; and because the therapeutic claims were unwarranted (*Jour. A. M. A.*, March 11, 1916, p. 831).

Emetic Action of Drugs.—The investigation of R. A. Hatcher and C. Eggleston show that the nauseant and emetic action of many drugs is not due to their effects of the stomach, but to a central action on the "vomiting centers." Practically all alkaloids and alkaloidal drugs which have emetic properties, including morphin and preparations containing, it emetin, cephaelin, quinin, nicotin, lobelin, pilocarpin, aconite and veratrin, ergot and apomorphin, which produce nausea or vomiting as their chief or side actions, do so by direct effect on the vomiting center. Sodium salicylate, picrotoxin and digitalis also produce vomiting through central action. These investigations show the futility of the many devices which have been employed in attempts to avoid the nausea or emesis produced by many drugs as an undesired side-effect (*Jour. A. M. A.*, March 11, 1916, p. 817).

Alarming Symptoms Caused by Diarsenol.—Diarsenol is made by the Synthetic Drug Company of Toronto, Canada. It is stated to be chemically identical with salvarsan. A. H. Cook, Hot Springs, Ark., reports that he has administered fourteen intravenous injection of Diarsenol. Eleven consecutive doses were without untoward effect or phenomena differing from those attending the intravenous adminis-

tration of salvarsan. The three subsequent doses produced alarming symptoms, which Dr. Cook never observed from the use of salvarsan or neosalvarsan (*Jour. A. M. A.*, March 18, 1916, p. 865).

Clinical Report on Arsenobenzol.—"Arsenobenzol" is being made by the Dermatological Research Laboratories of the Philadelphia Polyclinic. It is stated to be chemically identical with salvarsan. O. S. Ormsby and J. H. Mitchell report a series of 184 injections given to seventy-five patients suffering with syphilis in its various stages. They report that the action of this drug has been uniform, its toxicity low, and its therapeutic results excellent (*Jour. A. M. A.*, March 18, 1916, p. 867).

Endorse the Council on Pharmacy and Chemistry.—The following resolution was presented at the San Francisco meeting of the A. M. A., and signed by all the members of the house of delegates in attendance: "Resolved, We, Members of the House of Delegates of the American Medical Association, believe that every effort must be made to do away with the evils which result from the exploitation of the sick for the sake of gain. Earnestly believing that the continued toleration of secret, semi-secret, unscientific or untruthfully advertised proprietary medicines is an evil that is inimical to medical progress and to the best interest of the public, we declare ourselves in sympathy with, endorse and by our best efforts will further the work which has been and is being done by the Council on Pharmacy and Chemistry of the American Medical Association in the attempt to eliminate this evil" (*Jour. A. M. A.*, March 18, 1916, p. 910).

The Requirements of the Council on Pharmacy and Chemistry.—New and Non-official Remedies contain the rules which govern the Council in the admission of remedies to this book. These rules merely require that the composition of a remedy be non-secret, that its uniformity be safeguarded, that no false claims be made regarding its therapeutic properties and that its use shall be at least based on a probability of therapeutic merit. A simple way of determining if a certain preparation complies with the Council's rules, is to see if it is described in New and Non-official Remedies (*Jour. A. M. A.*, March 18, 1916, p. 913).

Larkspur for Pediculosis Capitis.—Various formulas for tincture of larkspur for use against pediculosis capitis have been published, but larkspur is poisonous and harm may result where there are abrasions of the skin. Many prefer kerosene. It is applied under a suitable cap. After twenty-four hours the hair is combed to remove nits and then washed (*Jour. A. M. A.*, March 18, 1916, p. 913).

Hexamethylenamin and Uric Acid.—If further evidence were necessary to show the fultility of administering formaldehyd derivatives like hexamethylenamin as uric acid solvents, it could be found in the observations recorded by Haskins under the auspices of the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry. While the administration of excessive doses may produce slight solvent action, Haskins points out that the required does of hexamethylenamin is too large and an equal or better effect can be produced more readily by administration of alkaline diuretics or sodium bicarbonate in reasonable quantities (*Jour. A. M. A.*, March 25, 1916, p. 962).

Venarsen, Venomer and Venodine.—The A. M. A. Chemical Laboratory found Venarsen, which is recommended by the manufactures, the Intravenous Products Company, for the treatment of syphilis, tuberculosis, pellagra and other diseases, to be "a simple solution containing approximately 9 grains of sodium cacodylate, 1-40 grain of mercury 'viniodide' and 3-4 grain of sodium iodid to each full dose." Sodium cacodylate is inferior to salvarsan or neosalvarsan in the treatment of syphilis. The Council on Pharmacy and Chemistry held the claims made for Venarsen unwarranted and its intravenous injection uncalled for. Venomer, which is also offered as an antisyphilitic remedy, appears to be a variation on Venarsen, containing considerably less sodium cacodylate and considerably more mercury and iodids. It prompts the comment that a careful physician would not give arsenic and mercury in fixed proportions. Venodine was rejected by the Council on Pharmacy and Chemistry because the claims made for it were found unwarranted and its composition unscientific. The indiscriminate use of intravenous products is objectionable for many reasons. It incurs an unnecessary danger, and it puts the physician to needless trouble and the patient to unnecessary expense (*Jour. A. M. A.*, March 25, 1916, p. 978).

FEDERAL AID IN TUBERCULOSIS

On January 6, 1916, Senator Norris of Nebraska introduced in the U. S. Senate a Bill for the extension of Federal Relief to Certain Classes of Tuberculous patients, and on the day following a similar Bill was presented by Mr. Kent of California to the consideration of the House. The House Bill is as follows:

A BILL

To standardize the treatment of tuberculosis in the United States, to provide Federal aid in caring for indigent tuberculous persons, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

That within the appropriations made from time to time for such purposes the Secretary of the Treasury is hereby authorized to aid State authorities in providing care and treatment for indigent tuberculous persons who are citizens of the United States, but not legal residents of the States in which they are temporarily located, and for this purpose may designate such public or private hospitals and sanatoria as may be necessary. Prior to being designated to receive patients, and from time to time, said institutions shall be subject to inspection by officers of the Public Health Service in order to determine the facilities and methods available and in use for care and treatment of patients, and the Secretary of the Treasury is further authorized to prescribe standards to which institutions shall conform in order to obtain the benefits of this Act.

SEC. 2. That hospitals and sanatoria designated in accordance with the provisions of this Act shall be entitled to and may receive from the Federal Treasury a subvention fixed annually by the Secretary of the Treasury, but not exceeding 75 cents per diem for each indigent patient admitted with the approval of the Secretary of the Treasury: *Provided,* That the State in which said indigent tuberculous patient is admitted to a hospital or sanatorium for treatment shall pay or cause to be paid a subvention, not less than that paid by the Federal Government, toward the cost of caring for such patient in said hospital or sanatorium. Subventions under this law will be granted only in the case of indigent patients who have submitted satisfactory evidence that they were not assisted by any person or institution to leave their legal residence or did not themselves leave in order to receive benefits under this Act.

SEC. 3. That the Secretary of the Treasury is authorized to issue regulations governing the designation of institutions and establishment of standards and for otherwise carrying out the provisions of this Act; and he is further authorized to collect and make available for general use information and descriptive matter relative to the construction, equipment, and maintenance of hospitals, sanatoria, and similar institutions.

SEC. 4. That detailed estimates of the sums required annually to carry out the provisions of this Act shall be submitted hereafter in the usual Book of Estimates.

This seems to us a very desirable step forward. Vermont is perhaps personally less affected by the influx of tuberculosis patients from beyond its borders than Colorado, New York or the Carolinas, but no more impressive appeal could be made to the human heart than a patient in the hopeless stage of tuberculosis becoming suddenly destitute far from his friends and his home. Of course sentiment is not entirely the basis of this offered relief and yet the strength of the appeal lies in the sentiment of humanity. A certain delirium of hope is so active in these patients as a rule,—they are so confident of a speedy cure of a hopeless condition, that they roam abroad in quest of health without foresight or preparation. For years these poor patients panted, coughing, to Colorado, and often found there no abode, no friends and no relief. They exhausted the funds of all the charitable organizations in Colorado and still hundreds died unrelieved. We hope that every physician in Vermont will write to his Congressman in approval of this Bill.

THE DOCTOR'S VIEWS

"What's your opinion regarding nitrates, doctor?" inquired the druggist, who takes an interest in medical affairs.

"I think they ought to be higher," growled the physician. "Two dollars ain't enough to pay a man for getting out of a warm bed."—*National Druggist.*

Book Reviews

We have been for some times awaiting the appearance of Morse and Talbot's book on *Diseases of Nutrition and Infant Feeding,* and we find on a careful examination that our anticipation of its value is amply sustained. A careful study of the processes of normal digestion in infants introduces an investigation into the impairments of those processes and their restoration to healthy activity. Infant feeding takes up a large portion of the book and is considered with a thoroughness that has come to be known as characteristic of the authors. No more valuable volume on the subjects treated has ever appeared, and it is a book that no pedistrist can afford to be without,—and that term necessarily includes all preral practitioners of medicine.

"Diseases of Nutrition and Infant Feeding," by John Lovett Morse, A.M., M.D., and Fritz B. Talbot, A.B., M.D., New York, The Macmillan Company. 8vo., 346 p.p., price $2.50.

The progressive up-to-date physician cannot dispense with the newer remedies, proprietary and non-proprietary. Yet he can neither select them on the basis of the manufacturers' claims alone, nor devote his patients to experiments while he tries out those claims. New and Nonofficial Remedies, which is the result of the investigation of a corps of scientists and clinicians, is worthy of adoption by every practicing physician as an aid in selecting those therapeutic agents in which confidence may be placed. *N. N. R.* 1916 contains much valuable therapeutic information on general subjects besides satisfactorily covering the field of honestly marketed remedies which are worthy of attention and trial.

"New and Nonofficial Remedies." Containing Descriptions of the Articles Which have been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association Prior to Jan. 1, 1916. Cloth. Price, postpaid, $1. Pp. 428 + xxii. Chicago: American Medical Association, 1916.

News Notes

Dr. R. C. Flagg has been appointed Health Officer for the Town of Westford.

Dr. L. T. Page of Wilmington has returned from the North Adams, Mass., Hospital where he has been several weeks for treatment.

Dr. W. W. Hutchinson of Enosburg Falls has just entered upon his forty-second year as Town Clerk. For six years previous to his election to that office he acted as assistant to his father, the late Dr. W. R. Hutchinson, who was Town Clerk for many years.

Dr. J. W. Copeland of Lyndon, who has served the town as health officer for more than 25 years, has resigned the office and was succeeded early in March by Dr. A. A. Cheney, who received the appointment from the state board of health. Dr. Copeland was the original health officer under the present system, and during his long period of service has given the town exceptionally efficient service. It is probable that he has served longer in this capacity than any other health officer in the state. He retires at this time because of his advancing years.

Dr. J. L. Welsh of Proctor has been appointed post master there and has assumed the office.

Dr. J. C. Breitling, for nineteen years a practicing physician at Lunenburg, has gone to Temple, Texas, where he will engage in the practice of his profession. Just before Dr. and Mrs. Breitling left Lunenburg they were presented a purse of money by a large number of friends, and the Doctor was presented

a camera by twenty-five children, all but one of whom Dr. Breitling brought into the world.

Dr. H. D. Hinsman, who for the past nine months has been ill with inflammatory rheumatism and who has been at the home of his mother in West Charleston for several weeks, is greatly improved in health and expects to resume his practice in Enosburg Falls soon.

Dr. Francis J. Ennis, U. V. M., 1914, has been appointed all-time health officer for Burlington, and will assume his duties soon, succeeding Dr. D. J. Nolan. Dr. Ennis, since his graduation, has practiced in Richmond. This is the first time Burlington has had a health officer who will devote himself entirely to the needs of the city, provision having been made for this by the last legislature.

Dr. John Jacob Osterhout of Keene, N. H., who graduated from the Albany Medical College in 1898, has rented the offices of the late Dr. M. Richards Crain in Rutland and will take possession soon. Dr. Osterhout is a member of the New Hampshire Medical Society. He expects to do surgery in Rutland but will continue his practice in Keene, keeping office there two days each week.

RUTLAND COUNTY NOTES

A public address was given by Dr. C. K. Johnson of Burlington at the Woman's Club Rooms, Rutland, March 7th, on "Infant Mortality." Following the lecture a free clinic was held for poor children.

The last in the series of Post-Graduate Lectures of the Rutland County Medical and Surgical Society was held at the Rutland Hospital Tuesday, April 11th, with a Surgical Clinic by Dr. A. W. Elting of the Albany Medical College.

A very commodious room has been given for the use of physicians in the Rutland Hospital. The room will be for meetings, etc., and will include a library —the foundation of which consists of the library of the late Dr. Crain and books given the hospital by Dr. C. W. Strobell, of New York. The room is being furnished by the physicians and will have excellent facilities for showing lantern slides.

Dr. F. J. Russell, Superintendent of the State Institution for Feeble-Minded Children at Brandon, gave an address at the Rutland Woman's Club Rooms on April 5th, discussing the methods of caring for mental defectives.

F. H. G.

STATE CARE OF INDIGENT TUBERCULOUS PERSONS

The state of Vermont makes an appropriation annually for the care of "indigent tuberculous individuals" provided they are treated in "the Vermont Sanatorium or a similar institution." (Acts 219, 220, 1912.). The distribution of this appropriation is in the hands of the Governor, and those wishing to * * * be designated as beneficiaries under the foregoing Acts should make application to the selectmen of the town in which they reside, and the selectmen can procure the necessary blanks from the Secretary of Civil and Military Affairs. The selectmen will then have the applicant examined by two physicians and will investigate the financial condition of the applicant and make a complete report of the investigation to the governor, in accordance with the provisions of the Act. Ths examination and report is solely for the assistance of the governor in determining whether he will designate the applicant as a state beneficiary or not.—*Vermont Sanatorium Report.*

Constitution and By-Laws

Vermont State Medical Society

CONSTITUTION

(As adopted Oct. 9, 1902, with subsequent amendments.)

Article I.—*Name*

This Society shall be called the Vermont State Medical Society.

Article II.—*House of Delegates*

Each affiliating County Society in the State shall be entitled to and elect one delegate for every ten active members and one for any additional fraction of more than half that number to represent it at the annual meeting of the State Society.

At the first annual meeting one-half, or as near as may be, of said delegates shall be elected to serve two years and the remainder for one year. At each subsequent annual meeting a sufficient number of delegates shall be elected to complete the quota of that county.

An alternate for each delegate shall be elected at the same time.

The above named delegates shall collectively constitute the House of Delegates of the Vermont State Medical Society, and shall conduct the general business of the annual meeting and elect the officers. They shall elect their own officers and may adopt such By-Laws and Regulations for their own procedure as are not in conflict with the provisions of this Constitution and By-Laws.

No member of the House of Delegates shall be eligible to the offices in this Society of President, Vice-President, Secretary, Treasurer or Auditor.

Article III.—*Officers*

The officers of this Society shall be a President, Vice-President, Secretary, Treasurer, Auditor, a Publication Committee of three (3) members, of which the Secretary shall be chairman; Executive Committee of three (3) members, of which the Secretary shall be one ex-officio; a Committee of Necrology of three (3) members; Committee of Legislation of three (3) members — all of whom shall be elected annually and shall hold their respective offices until the close of the next annual meeting and until their successors are elected.

There shall also be a committee on Medical Education of three (3) members, to be elected for one, two and three years respectively, and thereafter one (1) member elected each year to serve for three (3) years and until his successor is elected.

There shall be nominated by the House of Delegates each even year, two (2) members whose names shall be submitted to the Governor for appointment to the Board of Medical Registration, in accordance with the provisions of the laws of the State.

The House of Delegates shall elect a medico-legal committee of three members, one to serve for one year, one to serve for two years, and one to serve for three years, and hereafter there shall be elected annually one member to serve for three years until his successor is elected.

Article IV.—*Meetings*

There shall be an annual meeting of this Society held on the first Thursday and Friday after the second Wednesday in October, at such place as shall be designated by vote of the House of Delegates at the previous annual meeting.

Article V.—*Membership*

The active membership of this Society shall consist of the active members of the affiliating County Societies, whose dues to the State Society are paid on or before the last day of each fiscal year.

Article VI.—*Discipline*

Any member of the Society guilty of intoxication, unprofessional or irregular practice, or of gross immorality, or for other good reasons, may be expelled or suspended from the Society by a two-thirds vote of the House of Delegates present at any annual meeting.

Article VII.—*Changes in Constitution*

This Constitution may be repealed, altered or amended at any annual meeting, by a vote of two-thirds of the members present, provided

such repeal, alteration or amendment be proposed at a previous annual meeting.

Article VIII.—*Affiliation with A. M. A.*

This Society shall be an integral part of the American Medical Association, and shall elect delegates and shall transact other necessary business in accordance with the Constitution and By-Laws of the American Medical Association.

Article IX.—*Changes in By-Laws*

The House of Delegates may adopt such By-Laws, not repugnant to this Constitution, and may repeal, alter or amend the same in such manner as a majority of the said House of Delegates at any annual meeting may deem proper.

BY-LAWS

Article I.—*Duties of Officers*

SECTION 1. The President shall preside at all meetings and perform all the duties incident to such office. He shall deliver, or cause to be read, an address or dissertation on some medical subject at the annual meeting at which he presides.

SEC. 2. The Vice-President shall preside in the absence of the President, and shall perform all his duties and possess all his privileges. He shall deliver, or cause to be read, on the first day of the annual meeting, an address on medicine or surgery.

SEC. 3. The Secretary shall keep a record of the proceedings of the Society, and of the members present at each meeting; shall conduct the correspondence; shall procure a stenographer to report the proceedings of each meeting, and shall be paid an annual salary of fifty dollars and necessary expenses. He shall, if unable to attend the meeting of the Society personally, send the records to some member in attendance.

SEC. 4. The Treasurer shall collect from the Treasurer of the County Societies and disburse all moneys of the Society agreeably to the direction of the House of Delegates, and shall make report of his doings to the Society at its annual meeting.

SEC. 5. The Auditor shall examine and verify the accounts of the various officers.

SEC. 6. The Executive Committee shall make selection of a subject or subjects for the program and appoint a Committee of Arrangements of three members for the next ensuing meeting; shall make assignment of parts to any of the members, as in their judgment they think advisable, and report the same to this meeting and to each and every subsequent meeting.

They shall make such other arrangements for the meetings of the Society as they shall deem essential for its best interests.

SEC. 7. The Committee of Arrangements shall be residents of the town where the meeting is to be held. They shall make arrangements for the place of meeting, for a banquet on the evening of the first day, and for space for medical and surgical exhibits, and such other local arrangements as they may deem essential for the success of the meeting.

SEC. 8. The Publication Committee shall receive all papers referred to them by the Society, and as soon as possible subsequent to the annual meeting of the Society shall publish such of those papers as they shall deem best suited to promote the interests of the profession and the public good, under the title Transactions, and perform all other appropriate duties.

SEC. 9. The Committee on Necrology shall report the names of deceased members, and shall cause to be prepared such brief biographies as may in each case be deemed best.

SEC. 10. The Committee on Medical Education shall keep themselves fully informed regarding the standards of Medical Education in the various States; note how there standards compare with those of their own State and embody the facts learned, with any recommendations, in an annual report to the State Society.

SEC. 11. It shall be the duty of the Committee on Legislation to receive and examine all resolutions or proposed laws or acts pertaining to medical legislation which may come up at any meeting, and to report on the same at the meeting then in session; also to have charge of all legislative business of the Society which may properly come before the Legislature for enactment, as the Society may direct.

SEC. 12. It shall be the duty of the Committee on Health and Public Instruction to act with the Council on Health and Public Instruction of the American Medical Association and to spread proper instruction in Public Health matters among the people of this State.

Article II.—*Membership Dues*

SECTION 1. The fiscal year of this Society and of the affiliating County Societies shall begin January 1st.

SEC. 2. Dues are payable January first for the ensuing year. Each County Treasurer shall collect and forward to the State Treasurer with a report of the members whose dues are therewith paid, not later than March 31st of each fiscal year, from each member of his County Society the sum of $4.00 for the State Society, in addition to any amount that may be voted by the County Society for its own use.

SEC. 3. On April first of each year a new roster shall be compiled by the Secretary. This roster shall include the names of only those who have paid their dues in full for the current year. Only those who have so paid their dues shall be considered members in good standing. Those dropped from the previous roster shall be notified by the Secretary.

SEC. 4. Any member who has been dropped from the Society for the non-payment of dues, may be reinstated by paying all arrears.

SEC. 5. No member, who is not in good standing, shall receive any of the publications of the Society and no member shall receive the benefits of the Medico-legal defense provisions of this Society in defense of any act that occurred while he was not in good standing.

SEC. 6. Members who have been in good standing in their County Societies during the preceding 5 years and have reached the age of 65 may be carried as active members of County and State Societies without further payment of dues.

SEC. 7. Any physician joining a component County Medical Society after the 30th of September of any year shall be entitled to all the privileges of this Society for the remainder of the year upon payment of such sums for the County Society as they shall vote and 50 per cent of the annual dues for the Vermont State Medical Society, provided he has never before been a member of a County Society in Vermont.

SEC. 8. That there shall be adopted an uniform system of book and record keeping and this Society shall furnish the County Societies uniform blanks for all compulsory reports, statement and receipts and such other stationery as must be used by the County Societies.

Article III.—*Honorary Members*

The Society may elect at each annual meeting, not more than two honorary members, nonresidents of the State, who shall have the same privileges as ordinary members, except that they shall not be eligible to office no have the right to vote.

Article IV.—*Delegates*

Delegates shall be elected annually by the House of Delegates to represent this Society at the annual meetings of the State Medical Societies of the New England States and New York and such other societies as the mutual interests of the societies may direct. A delegate and an alternate shall be elected every even year to represent the Society at the annual meeting of the American Medical Association.

Credentials shall be issued to delegates by the secretary when he is duly notified of the time and place of the meeting they are to attend. In case a delegate is unable to attend the meeting to which he is elected, it shall be his duty to notify the secretary of his inability to attend, and the secretary and president shall appoint another to fill his place.

Article V.—*Discussion of Papers*

One or more members of the Society shall be appointed by the Secretary to open the discussion on each paper to be presented at any meeting.

Article VI.—*Withdrawals*

Any member wishing to withdraw from the Society shall be permitted to do so on his written request after he shall have presented the Treasurer's receipt for all moneys due.

Article VII.—*Publication of Constitution*

The Constitution and By-Laws, together with the names and residences of the members in good standing, shall be published in every volume of the Transactions.

Article VIII.—*Obituaries*

The names of deceased members of the Society, with the dates of birth, graduation, admission to membership, death, and such other items in brief, of personal history, as may seem desirable to the Committee on Publication, shall be printed in each copy of the Transactions, under the caption, "In Memoriam."

Article IX.—*Time for Papers*

No author shall consume more than twenty minutes in reading or presenting a paper, and no one shall speak more than five minutes in the discussion of a paper, without unanimous consent of the members present.

Article X.—*Addresses Property of Society*

All addresses and papers presented in the County and State Societies thereby become the property of the State Society, and shall be placed in the hands of the Secretary within one week after the meeting, for insertion in the Transactions.

Article XI.—*Order of Business*

The program as prepared by the Executive Committee and published in accordance with the By-Laws by the Secretary shall constitute the order of business, and can not be changed or suspended, except for a definite purpose, a limited time and by a two-thirds vote of the members present.

Article XII.—*Exhibitions*

The Committee of Arrangements of each annual meeting shall grant the privileges of exhibition, under the auspices of the Society, only to such pharmaceutical preparations as are recognized by the United States Pharmacopoeia, or are not protected by trade mark, secrecy of preparation or other exclusive proprietorship.

Article XIII.—*The Council*

SECTION 1. The Council shall consist of the President, Secretary and Treasurer of this Society, and of four Councillors elected from four Districts as follows; 1st District to consist of Grand Isle, Franklin, Chittenden and Addison Counties. 2nd District — Rutland, Bennington and Windham. 3rd District — Orleans, Orange, Essex and Caledonia. 4th District — Lamoille, Washington and Windsor.

The Councillors from the 1st and 3rd Districts shall be elected on the odd years to serve two years and those from the 2nd and 4th Districts shall be elected on the even years to serve two years.

In the year 1914 Councillors shall be elected from the 1st and 3rd Districts to serve for one year only.

SEC. 2. The Council shall manage the affairs of this Society when the House of Delegates is not in session.

The meetings of the Council shall be called by the President at his discretion or upon the written request of ten members of the Society.

SEC. 3. Each Councillor shall be organizer and peacemaker for his district. He shall visit the counties in his district at least once a year for the purpose of enquiring into the conditions of the profession and for improving and increasing the zeal of the county societies and shall aid the officers of the county societies in his district in increasing the membership and shall make an annual report of the conditions of the profession in his district and of the county societies therein to the House of Delegates.

The necessary traveling expenses incurred by such councillors in the line of duties herein impossed shall be allowed upon the approval of the President and Secretary but this shall not be construed to include his expenses in attending the annual meeting of the Society.

Article XIV.—*Members from No-Society Counties*

In counties not having a society, any physician in good standing may become a member of the society of any adjoining county.

Article XV.—*Reports of House of Delegates*

The House of Delegates shall report through its Clerk its actions to the Society at the opening of each session, provided the House of Delegates shall have held a session prior to that time and shall present through its Clerk a report of all its actions to the Secretary of the Society, which report shall be a part of the records and published in the Transactions.

Article XVI.—*Transfers*

When a member of a county Society desires to join the society in another country, he may be allowed to do so upon a favorable vote of both the society to which he geographically belongs, and of the County Society which he wishes to join.

Article XVII.

SECTION 1. The State Society may defend its members sued for malpractice.

SEC. 2. It shall be the duty of the medico-legal committee to investigate and defend suits against members in good standing for alleged malpractice.

SEC. 3. The Society will pay all costs of the defence of such a suit, including the furnishing of the Society's attorney, and all necessary court and witness fees, provided the defendant member complies with these By-Laws; and provided it does not appear that the claim made is a just one.

SEC. 4. As soon as a member is threatened, or if not threatened, as soon as action is commenced, he must make immediate written communication with the Secretary of the Committee, giving a full and complete statement of all the facts in the case, and authorizing the Society to defend the action.

The defendant shall not incur any expense, or interfere in any subsequent legal proceedings without the consent of the Society previously given in writing. And when requested by the Society, or its attorney, such defendant shall aid in securing evidence, the attendance of witnesses, and in prosecuting appeals.

SEC. 5. In no case will the Society pay damages, or any award or compromise, effected out of court, with or without its consent and advice. And if any case should not be defended according to the tenor of these By-Laws, no action shall lie against the Society for any liability therefor, unless it shall be brought by such defendant for expense actually sustained and paid in money by him, and within ninety days after final judgment in his favor is rendered upon trial of the issue.

SEC. 6. In case of payment of taxable costs by the Society, the Society shall be subrogated to the extent of such payment to all rights of recovery by the defendant against the plaintiff, his surety or sureties for costs, or their estates.

BY-LAWS AND REGULATIONS OF HOUSE OF DELEGATES

1st. The officers of this body shall consist of a President, two Vice-Presidents and a Secretary, all of whom shall be elected from members whose tenure of office as delegates does not expire during the year for which they are severally elected.

2nd. The duties of officers shall be the same as those of similar officers in other like organizations, and the Secretary shall at the close of the session turn over the records to the Secretary of the State Medical Society.

3rd. The first meeting of the House of Delegates at each annual meeting of the Society, shall be held at 5 p. m. of the first day.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1915-1916

Next Annual Session, Detroit, Mich., June 12-16, 1916

President—*William L. Rodman, Philadelphia.

President-Elect—Rupert Blue, Washington, D. C.

First Vice-President—†Albert Vander Veer, Albany, N. Y.

Second Vice-President—George B. Evans, Dayton, Ohio.

Third Vice-President — Donald Campbell, Butte, Mont.

Fouth Vice-President—Herbert C. Moffitt, San Francisco.

Secretary—Alexander R. Craig, 535 N. Dearborn St., Chicago.

Treasurer—William Allen Pusey, Chicago.

Editor and General Manager—George H. Simmons, 535 N. Dearborn St., Chicago.

Board of Trustees—W. W. Grant, Denver, 1916; Frank J. Lutz, St. Louis, 1916; Oscar Dowling, Shreveport, La., 1916; Philip Marvel, Atlantic City, 1917; Philip Mills Jones, San Francisco, 1907; W. T. Sarles, Sparta, Wis., 1917; M. L. Harris, Secretary, Chicago, 1918; W. T. Councilman, Chairman, Boston, 1918; Thomas McDavitt, St. Paul, 1918.

Judicial Council—Herbert Work,, Pueblo, Colo., 1916; Randolph Winslow, Baltimore,

*Died March 8, 1916.

†In case of the death . . . of the President, the vacancy shall be filled by the ranking Vice-President. (*By-Laws*, Chap. v, Sec. 2.)

1917; A. B. Cooke, Los Angeles, Calif., 1918; Alexander Lambert, Chairman, New York, 1919; James E. Moore, Minneapolis, Minn., 1920; Alexander R. Craig, Secretary, 535 N. Dearborn St., Chicago.

Council on Health and Public Instruction—H. M. Bracken, Chairman, Minneapolis, 1919; Walter B. Cannon, Boston, 1917; W. S. Rankin, Raleigh, N. C., 1918; Milton Board, Louisville, Ky., 1920; Frederick R. Green, Secretary, 535 N. Dearborn St., Chicago.

Council on Medical Education—W. D. Haggard, Nashville, Tenn., 1916; James W. Holland, Philadelphia, 1917; H. D. Arnold, Boston, 1918; Arthur D. Bevan, Chairman, Chicago, 1919; Robert C. Coffey, Portland, Ore., 1920; N. P. Colwell, Secretary, 535 N. Dearborn St., Chicago.

Council on Scientific Assembly—George H. Simmons, Chicago, 1919; Roger S. Morris, Cincinnati, 1918; E. S. Judd, Rochester, Minn., 1917; J. Shelton Horsley, Richmond, Va., 1916; Alexander R. Craig, Secretary of the Association, ex-officio.

Council on Pharmacy and Chemistry—Reid Hunt, Boston, Mass., 1917; J. H. Long, Chicago, 1917; Julius Stieglitz, Chicago, 1917; David L. Edsall, Boston, 1918; R. A. Hatcher, New York City, 1918; A. W. Hewlett, Ann Arbor, Mich., 1918; John Howland, Baltimore, 1919; Henry Kraemer, Philadelphia, 1919; C. L. Alsberg, Washington, D. C., 1919; G. W. McCoy, Washington, D. C., 1920; F. G. Novy, Ann Arbor, Mich., 1920; George H. Simmons, Chairman, Chicago, 1920; L. G. Rowntree, Minneapolis, 1921; Torald Sollman, Cleveland, 1921; M. I. Wilbert, Washington, D. C., 1921; W. A. Puckner, Secretary, 535 N. Dearborn St., Chicago.

OFFICERS OF THE VERMONT STATE MEDICAL SOCIETY

President—Edward Harlan Ross, St. Johnsbury.

Vice-President—Clayton Witters Bartlett, Bennington.

Secretary—James Madison Hamilton, Rutland.

Treasurer—Charles Francis Dalton, Burlington.

Auditor—Wm. F. Hazelton, Bellows Falls.

Executive Committee—Jas. M. Hamilton, Rutland; W. G. Ricker, St. Johnsbury; J. A. Stevenson, Chester.

Publication Committee—Jas. M. Hamilton, Rutland; Chas. F. Dalton, Burlington; A. Stuart M. Chisholm, Bennington.

Legislative Committee—F. W. Sears, Burlington; W. N. Bryant, Ludlow; H. H. Swift, Pittsford.

Medical Education Committee—F. E. Clark (1916), Burlington; J. J. Derven (1917), Poultney; G. C. Rublee (1918), Hardwick.

Necrology Committee—F. T. Kidder, O. V. Greene, H. L. Manchester.

Medico-Legal Committee—E. A. Hyatt (1916); St. Albans; J. N. Jenne (1917), Burlington; W. N. Bryant (1918), Ludlow.

Committee on Health and Public Instruction—G. G. Marshall, Rutland; L. H. Ross, Bennington; Grace W. Sherwood, St. Albans; Geo. I. Forbes, Burlington; F. W. Harriman, Montpelier.

Delegates to Connecticut River Valley Medical Association—C. F. Ball, Rutland.

Delegates to Maine State Medical Society—M. P. Stanley, White River Jct.

Delegate to New Hampshire Medical Society—J. M. Gibson, McIndoes Falls.

Delegate to Massachusetts Medical Society—C. W. Bartlett, Bennington.

Delegate to Connecticut State Medical Society—C. W. Howard, Shoreham.

Delegate to Rhode Island Medical Society—W. H. Lane, Brattleboro.

Delegate to Medical Society of the State of New York—L. M. Kelley, Manchester.

Delegates to American Association (2 years)—Alan Davidson, St. Albans.

Alternate to the American Medical Association (2 years)—To be named by President.

Anniversary Chairman—F. E. Clark, Burlington.

The annual meeting the first Thursday and Friday after the second Wednesday in October. At St. Johnsbury, October 12th and 13th, 1916.

Local Committee of Arrangements for 1916 Meeting—F. E. Farmer, W. J. Aldrich and H. H. Miltimore, St. Johnsbury.

THE COUNCIL

The President,
The Secretary,
The Treasurer,
and four Councillors:—

First District—(Grand Isle, Chittenden, Franklin and Addison Counties) E. J. Melville, St. Albans.

Second District—(Rutland, Bennington and Windham Counties) S. W. Hammond, Rutland.

Third District—(Orange, Orleans, Essex and Caledonia Counties) R. M. Wells, Orleans.

Fourth District—(Lamoille, Washington and Windsor Counties) G. L. Bates, Morrisville.

OFFICERS OF THE HOUSE OF DELEGATES

President—F. C. Liddle, Dorset.

First Vice-President—P. E. McSweeney, Burlington.

Second Vice-President—D. A. Shea, Burlington.

Secretary—B. D. Adams, Burlington.

1916 Roster

(Corrected to April 1st, 1916.)

ADDISON COUNTY MEDICAL SOCIETY

OFFICERS

President.—Stanton Seeley Eddy, Middlebury.

Vice-President.—Frank Cooley Phelps, Vergennes.

Secretary and Treasurer.—Edward Homer Martin, Middlebury.

Librarian.—Merritt Henry Eddy, Middlebury.

Delegates.—Harold Lyman Williamson, Bristol, (two years); Dennis James Carroll, Vergennes, (one year); Charles Willard Howard, Shoreham, (one year).

Alternates.—Vance William Waterman, Vergennes, (two years); Leonard Blake Rowe, Orwell, (one year); George F. Edmunds, Bristol, (one year).

MEMBERS

Blaisdell, Edson George .....Bridport
Briggs, Frank T. .....Bristol
Bump, Orlo Myron .....Salisbury
Campbell, John Lincoln .....Warren
Carroll, Dennis James .....Vergennes
Collins, George Pease .....Ferrisburg
Dean, Charles Henry .....Salisbury
Dorey, Peter Leo .....Middlebury
Eddy, Merritt Henry .....Middlebury
Eddy, Stanton Seeley .....Middlebury
Edmunds, George F. .....Bristol
Howard, Charles Willard .....Shoreham
Martin, Edward Homer .....Middlebury
Norton, Anson Mortimer .....Bristol
Oullett, L. F. Alfred .....Orwell
Phelps, Frank Cooley .....Vergennes
Pilon, Edward .....Vergennes
Platt, Mary A. Mixer .....Shoreham
Porter, Edward O. .....Cornwall
Prentiss, Robert Wales .....Middlebury
Rogers, Frank Mathews .....Vergennes
Rowe, Leonard Blake .....Orwell
Sharon, Isaac Paul .....Shoreham
Wade, Henry .....Starksboro
Waterman, Vance William .....Vergennes
White, Walter James .....Middlebury
Williamson, Harold Lyman .....Bristol
(27 members.)

Fixed Meetings.—First Thursday of January and July (annual), and upon call of Secretary.

BENNINGTON COUNTY MEDICAL SOCIETY

OFFICERS

President.—Henry Skinner Goodall, Bennington.

Vice-President.—Linwood Major Kelley, Manchester.

Secretary and Treasurer.—Lucretius Henry Ross, Bennington.

Delegates.—Joel Brown Woodhull, North Bennington; Frederick C. Liddle, Dorset.

MEMBERS

Bartlett, Clayton Witters .....Bennington
Calahan, Luther John .....Manchester
Campbell, Claude Melnotte .....Manchester
Chisholm, Adam Stuart Muir ....Bennington

Cochrane, John I. .....East Dorset
Dean, Frank Edward .....S. Shaftsbury
Flood, William Arthur .....N. Bennington
Gleason, David A. .....N. Bennington
Goodall, Henry Skinner .....Bennington
Kelley, Linwood Major ....Manchester Center
Liddle, Frederick C. .....Dorset
O'Donnell, Daniel Vincent .....Bennington
Potter, Everett Eli .....N. Pownal
Putnam, Warren Edward .....Bennington
Ross, Lucretius Henry .....Bennington
Russell, George Albert .....Arlington
Trull, Edgar Valentine .....Manchester
Wilson, John R. .....Bennington
Woodhull, Joel Brown .....N. Bennington
Wright, Allen Henry,
North Adams, Mass., R. F. D.
(20 members)

Fixed Meetings.—Second Wednesday of January, April, July (annual) and October.

CALEDONIA COUNTY MEDICAL SOCIETY

OFFICERS

President.—Walter Johnson Aldrich, St. Johnsbury.

Vice-President.—George Clark Rublee, Hardwick.

Secretary and Treasurer.—Hugh Herald Miltimore, St. Johnsbury.

Delegates for two years.—Albertus Allen Cheney, Lyndonville; John Milton Allen, St. Johnsbury.

Delegates for one year.—William Gray Ricker, St. Johnsbury; Frank M. Walsh, St. Johnsbury.

Censors.—Edward Harlan Ross, St. Johnsbury; Albert James Mackey, Peacham.

MEMBERS

Aldrich, Walter Johnson .....St. Johnsbury
Allen, John Milton .....St. Johnsbury
Brown, David Russell .....Lyndonville
Cheney, Albertus Allen .....Lyndonville
Cramton, Charles Augustus .. St. Johnsbury
Crane, Edward M. .....Hardwick
Darling, George Washington ..South Ryegate
Eliot, Henry Augustus .....Barnet
Fairbanks, Charlotte .....St. Johnsbury
Farmer, Frank Emerson .....St. Johnsbury
Ferris, Alson David .....Hardwick
Fitch, Willis Bryan .....St. Johnsbury
French, George B. .....Concord
Gibson, John Mitchell .....McIndoe's Falls
Johnson, Russell T. .....West Concord
Kinney, Albert Clark .....Hardwick
Kinney, Frederick Cushman ..Greensboro Bend
Leonard, Archie Lee .....Lyndon
Libby, Charles E. .....Danville
Mackey, Albert James .....Peacham
McKinley, Leslie Edwin .....St. Johnsbury
McSweeney, Roland M. .....St. Johnsbury
Miltimore, Hugh Herald .....St. Johnsbury
Pache, Henri L. .....Danville
Prevost, Charles A. .....St. Johnsbury
Ricker, William Gray .....St. Johnsbury
Ross, Edward Harlan .....St. Johnsbury
Rublee, George Clark .....Hardwick
Stiles, Truman Ransom .....St. Johnsbury
Walsh, Frank M. .....St. Johnsbury
Wesley, John Willard .....St. Johnsbury
(31 members.)

Fixed Meetings.—Second Tuesdays of January, April and July and third Tuesday of October (annual).

BURLINGTON AND CHITTENDEN CLINICAL SOCIETY

OFFICERS

President.—James Nathaniel Jenne, Burlington.

Vice-President.—Ernest Hiram Buttles, Burlington.

Secretary and Treasurer.—Oliver Newell Eastman, Burlington.

Executive Committee.—Robert Leland Maynard, Burlington; Edmund Towle Brown, Burlington; Frederick Kinney Jackson, Burlington.

Delegates for two years.—Patrick Eugene McSweeney, Burlington; Bingham Hiram Stone , Burlington; Frederick Ellsworth Clark, Burlington.

Alternates for two years.— Daniel Augustus Shea, Burlington; George Benjamin Hulburd, Jericho; Linman Clayton Holcomb, Milton.

MEMBERS

Adams, Benjamin Dyer .....Burlington
Allen, Lyman .....Burlington

Allen, Truman James .....Waterbury
Archambault, Joseph Antoine ..Essex Junction
Arnold, Francis Joseph .....Burlington
Beecher, Clarence Henry .....Burlington
Berry, Walter D. .....Burlington
Bombard, Bird Joseph Arthur ....Burlington
Branch, George Harvey .....Grand Isle
Brown, Edmund Towle .....Burlington
Brown, Thomas Stephen .....Burlington
Bunce, J. W. .....Burlington
Buttles, Ernest Hiram .....Burlington
Caldwell, Nathan Renwick .....Burlington
Caron, Napoleon J. .....So. Hero
Coburn, Irving Smith .....Milton
Contu, George Octave .....Burlington
Dalton, Charles Francis .....Burlington
Dodds, John Hazen .....Burlington
Eastman, Oliver Newell .....Burlington
Englesby, William Hudson, ...Burlington
Flagg, Robert Cushman .....Essex
Forbes, George Isaac .....Burlington
Grout, Don DeForest .....Waterbury
Hawley, Donly Curtis .....Burlington
Hays, Thomas Embelton .....Burlington
Heath, Edward Allen .....Winooski
Holcomb, Linman Clayton .....Milton
Hopkins, Harry D. .....Waterbury
Howard, Sue Emma Hertz .....Burlington
Hurlburd, George Benjamin .....Jericho
Hunter, John Alexander .....Essex Junction
Jackson, Frederick Kinney .....Burlington
Jenne, James Nathaniel .....Burlington
Johnson, Charles Kimball .....Burlington
Johnson, Robert William .....Burlington
Ladd, Henry Abner .....Burlington
Lane, Edward Stevens .....No. Ferrisburg
Larner, Arthur Leo .....Burlington
Lewis, Frank Clark ....New York City, N. Y.
Lyman, William Anderson .....Burlington
Marvin, David .....Essex Junction
Maynard, Robert Leland .....Burlington
McSweeney, Patrick Eugene .....Burlington
Mitchell, William Hayes .....Shelburne
Morrison, Lawrie Byron .....Burlington
Morrison, Sidney Leon .....Burlington
Nay, Winfield Scott .....Underhill
Pease, Clifford Atherton .....Burlington
Rich, Frank Abiram .....Burlington
Rist, Gilbert Frank .....Burlington
Sabin, George Millar .....Burlington
Sears, Frederick William .....Burlington
Stone, Bingham Hiram .....Burlington
Tanner, James Drummond .....Burlington
Tilley, William Taft .....Richmond
Tinkham, Henry Crain .....Burlington
Twitchell, Emmus G. C. .....Burlington
Twitchell, Marshall Coleman .....Burlington
Watkins, Harris Ralph .....Burlington
Wheeler, John Brooks .....Burlington
Whitney, Charles Flagg .....Burlington
Wilder, Henry Lawrence .....Burlington

(63 members.)

Meetings.—As arranged by the Executive Committee, usually the last Thursday of each month except July and August. Annual meeting in September.

FRANKLIN COUNTY MEDICAL SOCIETY

OFFICERS

President.—Charles Gordon Abell, Enosburg Falls.

Vice-President.—Edwin Arnold Hyatt, St. Albans.

Secretary and Treasurer.—Waldo Jesse Upton, St. Albans.

Censors.—Seth H. Martin, Alburgh; John Gibson, St. Albans; Rollin Milo Pelton, Richford.

Delegates for two years.—Alan Davidson, St. Albans; Edmund Rushmore Lape, Swanton.

Delegates for one year.—Wilfred Harmon Wright, Georgia; Columbus Sewell Scofield, Richford.

Alternates.—Abraham Lincoln Cross, Swanton; George Sherman Clark, Montgomery Center; George Carlton Berkley, St. Albans; John S. Goodfellow, Alburgh Springs.

MEMBERS

Abell, Charles Gordon .....Enosburg Falls
Allen, Clarence E. .....Swanton
Arnold, William B. .....St. Albans
Berkley, George Carlton .....St. Albans
Brown, Edwin Merriam .....Sheldon
Caisse, John Marie .....Swanton
Cross, Abraham Lincoln .....Swanton
Davidson, Alan .....St. Albans
Gibson, John .....St. Albans
Hall, James B. .....Franklin
Hutchinson, William Watson ..Enosburg Falls
Hyatt, Edwin Arnold .....St. Albans
Hyde, William B. .....Bakersfield

Johnson, Cyrus Ulysses .....West Berkshire
Johnson, Howard Horace .....Franklin
King, James Samuel .....Isle La Motte
Lape, Edmund Rushmore .....Swanton
Loftus, Claude Anthony .....St. Albans
Lunderville, Evroy Paul .....Richford
Martin, Seth H. .....Alburgh
Mason, Frederick Walter ..Great Neck, L. I.
Melville, Edmund J. .....St. Albans
Montefiore, Herbert N. .....St. Albans
Morton, Arthur Oscar .....St. Albans
Norris, Francis William .....St. Albans
Paige, Stephen William ..... St. Albans
Pelton, Rollin Milo .....Richford
Perrault, Joseph G. .....St. Albans
Pierce, Herbert Lorenzo .....Swanton
Powers, Dennis O. .....Highgate Center
Pratt, Chas. Ai .....Enosburg Falls
Scofield, Columbus Sewell .....Richford
Sherwood, Grace W. .....St. Albans
Thomas, Raymond Brown .....Enosburg Falls
Upton, Waldo Jesse .....St. Albans
Welch, Rodman E. .....Franklin
Wright, Winfred Harmon .....Georgia
(37 members.)

Fixed Meetings.—Second Wednesday of May (annual) and third Wednesday in September.

LAMOILLE COUNTY MEDICAL SOCIETY

OFFICERS

President.—Chester Sylvester Leach, Hyde Park.
Vice-President.—Wm. Taft Slayton, Morrisville.
Secretary and Treasurer.—Alden Vernon Cooper, Walcott.
Delegate.—Geo. Lucian Bates, Morrisville.
Alternate.—Wm. Taft Slayton, Morrisville.
Censors.—Chas. Wright Bates, Morrisville; John Milton Stevens, Hyde Park; Chester Lucien Bates, Morrisville.

MEMBERS

Barrows, Harry Willard .....Stowe
Bates, Chas. Wright .....Morrisville
Bates, George Lucian .....Morrisville
Cooper, Alden Vernon .....Walcott
Holcomb, Lyndhurst Prime .....Johnson
Leach, Chester Sylvester .....Hyde Park
Maurice, Geo. Byron .....Waterville
Prentiss, Roger Gaylord .....Johnson
Slayton, Wm. Taft .....Morrisville
Stevens, John Milton .....Hyde Park
Valleau, Archibald J. .....Morrisville
Waite, Herschel Napoleon .....Johnson
(12 members.)

Fixed Meetings.—First Wednesday of January and July.

ORLEANS COUNTY MEDICAL SOCIETY

OFFICERS

President.—Robert Moore Wells, Orleans.
Vice-President.—J. F. Kendrick, Charleston.
Secretary and Treasurer.—James Frank Blanchard, Newport.
Delegates.—J. M. Blake, Barton; George Fish Adams, Derby.
Alternates.—Ozias Boynton Gould, Newport; James Frank Blanchard, Newport.
Censors.—James Frank Blanchard, Newport; Ozias Boynton Gould, Newport; Anthony Marion Goddard, Albany.

MEMBERS

Adams, Ransom Willis .....Newport Center
Aldrich, Fred Noble .....Derby
Blanchard, James Frank .....Newport
Colby, John Child .....Stanstead, P. Q.
Erwin, Charles Lovejoy .....Newport Center
Gatchell, Robert A. .....Beebe Plains
Gould, Ozias Boynton .....Newport
Kendrick, James Fotheringham, West Charleston
Longe, Albert Duane .....Newport
Wells, Robert Moore .....Orleans
(10 members.)

Annual Meeting.—Second Wednesday in May

RUTLAND COUNTY MEDICAL SOCIETY

OFFICERS

President.—Charles E. Griffin, Fair Haven.
Vice-President.—James Stewart Eastwood, Brandon.
Secretary and Treasurer.—Frederick Henry Gebhardt, Rutland.

Auditor.—Charles Solomon Caverly, Rutland.
Censors.—Alberic Hyacinth Bellerose, Rutland; George Davenport Parkhurst, Fair Haven; John Wesley Estabrook, Brandon.
Delegates.—Carroll Baldwin Ross, West Rutland; John Wesley Estabrook, Brandon; John Joseph Derven, Poultney; Edward Francis Crofutt, Poultney; Charles Henry Swift, Rutland; Thomas Henry Hack, Proctor.
Alternates.—Herbert S. Martyn, Cuttingsville; William Nelson Bryant, Ludlow; Ralph Hunt Seeley, Castleton; Ray Ernest Smith, Rutland; Edgar Ianson Hall, Rutland; Bernie Dennis Colby, Sudbury.

MEMBERS

Averill, Ernest L. .....Brandon
Baker, Orville Clark .....Brandon
Ball, Clarence Franklin .....Rutland
Bellerose, Alberic Hyacinth .....Rutland
Bryant, William Nelson .....Ludlow
Caverly, Charles Solomon .....Rutland
Clark, Edward Russell .....Castleton
Clough, Osgood Flint .....Poultney
Colby, Bernie Dennis .....Sudbury
Cootey, Sherwin Aldrich .....Wallingford
Cootey, Thomas Albert .....Rutland
Crofut, Edward Francis .....Poultney
Delehanty, Nicholas James .....Rutland
Derven, John Joseph .....Poultney
Eastwood, James Stewart .....Brandon
Ellis, Edward D. .....Poultney
Estabrook, John Wesley .....Brandon
Gale, Charles Alson .....Rutland
Gebhardt, Frederick Henry .....Rutland
Gilchrist, Oscar James .....Rutland
Griffin, Charles E. .....Fair Haven
Grinnell, William Henry .....Danby
Hack, Thomas Henry .....Proctor
Hagan, Thomas Joseph .....Pittsford
Hall, Edgar Ianson .....Rutland
Hamilton, James Madison .....Rutland
Hammond, Schuyler Weston .....Rutland
Hanrahan, John David .....Rutland
Heidel, Lewis Albertus .....Rutland
Hodsdon, Walter Grant .....Rutland
Horner, John Smith .....West Pawlet
Hudson, Elmo Jerome ....Middletown Springs
Lape, Rushmore .....Fair Haven
Larner, Thomas Edward .....Rutland
Manchester, Hiram L. .....Pawlet
Marshall, George Guerin .....Rutland
Martyn, Herbert S. .....Cuttingsville
Miller, John Henry .....Wallingford
Mountford, Arthur Harold .....Rutland
Newton, Jasper P. .....Benson
Parkhurst, George Davenport ....Fair Haven
Peck, Charles W. .....Brandon
Perry, Clarence C. .....West Rutland
Pierce Duane Charles .....Ludlow
Pond, Edmund Morse .....Rutland
Powers, Bradford Cleaver .....Rutland
Quigley, Francis Edward .....Rutland
Rogers, Edward James .....Pittsford
Ross, Carroll Baldwin .....West Rutland
Rustedt, George .....Rutland
Ryan, Harry Richard .....Rutland
Seeley, Ralph Hunt .....Castleton
Smith, Ray Ernest .....Rutland
Stewart, Wm. E. .....Wallingford
Stickney, William .....Rutland
Swift, Charles Henry .....Rutland
Swift, Henry Haven .....Pittsford
Thomson, Jesse Eugene .....Rutland
Townsend, William Warren .....Rutland
Warren, Charles Bertram .....West Rutland
*Whipple, Edward O. .....Danby
Woodward, Julius Hayden ....New York City

*Died March 11, 1916.

(62 members.)

Fixed Meetings.—Second Tuesday of January, April and July (annual) and third Tuesday of October.

WASHINGTON COUNTY MEDICAL SOCIETY

OFFICERS

President.—John P. Gifford, Randolph.
Vice-President.—George Smith Bidwell, Waterbury.
Secretary and Treasurer.—Clarence Harvey Burr, Montpelier.
Auditor.—DeForest Clinton Jarvis, Barre.
Censors.—Myron Lenard Chandler, Barre; Harlow Adolphus Whitney, Northfield; F. W. Harriman, Montpelier.
Delegates for one year.—Orlando Greenleaf Stickney, Barre; Leo Alexander Newcomb, Montpelier.
Delegates for two years.—William Lindsay, Montpelier; Michael Francis McGuire, Montpelier.

MEMBERS

Angell, Frank C. .....Randolph
Archambault, F. X. Zenon .....Barre
Avery, Nathan Elmore .....East Barre
Bailey, Alanson Cooper .....Randolph
Bailey, Ernest Harry .....Graniteville
Bidwell, George Smith .....Waterbury
Bisbee, Arthur B. .....Montpelier
Boucher, Joseph Albert .....Montpelier
Burbank, Lester Warren .....Cabot
Burr, Clarence Harvey .....Montpelier
Carver, Herbert Sales .....Marshfield
Chandler, Charles E. .....Montpelier
Chandler, Charles Porter .....Montpelier
Chandler, Myron Lenard .....Barre
Coffee, Vincent Henry .....Montpelier
Colton, Edwin A. .....Montpelier
Corson, Frank Earl .....Marshfield
Cross, Albion Arthur .....Williamstown
Dewey, Julius Edward .....Montpelier
Ellis, Elmer Ellsworth .....Brookfield
Gifford, John P. .....Randolph
Goodrich, Vernon Clayton.....Barre
Hall, George Guy .....So. Woodbury
Hanson, Lester Warren .....Montpelier
Harkness, Waldo Russell .....Montpelier
Harriman, Frederick Whitmore ....Montpelier
Howard, Warren J. .....Waitsfield
Hunt, Chauncey Earle .....Montpelier
Jackson, Joseph Wells .....Barre
Jarvis, DeForest Clinton .....Barre
Judkins, John H. .....Northfield
Lazelle, William Edwin .....Barre
Lindsay, William .....Montpelier
Marshall, Augustus T. .....Chelsea
McGuire, Michael Francis .....Montpelier
Mitchell, Sidney .....So. Stratford
Newcomb, Leo Alexander .....Montpelier
Newell, Herbert Llewellan ....East Randolph
Parmenter, George Homer .....Montpelier
Reid, William D. .....Barre
Rowland, Wm. Rothven .....E. Corinth
Rumrill, Clinton J. .....Randolph
Scott, George Worthington .....Randolph
Sprague, Edward George .....Barre
Stanley, Eugene A. .....Waterbury
Steele, Fred E., Jr. .....Waterbury
Stewart, John Wm. .....Barre
Stickney, Orlando Greenleaf .....Barre
Turner, Warren D. .....Worcester
Wark, Joseph Arthur .....Barre
Warren, Arthur Bradley .....Warren
Wasson, Watson Lowell .....Waterbury
Watson, Elliot Burnham .....Williamstown
Watson, Horace Londers .....Montpelier
Whitney, Harlow Adolphus .....Northfield
Woodruff, John Hamilton .....Barre

(56 members.)

Fixed Meetings.—Second Tuesday in March, June, September (annual) and December.

WINDHAM COUNTY MEDICAL SOCIETY

OFFICERS

President.—William F. Hazelton, Bellows Falls.
Vice-President.—F. L. Osgood, Saxtons River.
Secretary and Treasurer.—G. R. Anderson, Brattleboro.
Censors.—G. H. Gorham, Bellows Falls; L. H. Gillette, Springfield; J. H. Blodgett, Bellows Falls.
Delegates.—(1 year), F. L. Osgood, Townshend; J. S. Hill, Bellows Falls; (2 years), J. A. Stevens, Chester; W. F. Hazelton. Bellows Falls.

MEMBERS

Anderson, Geo. Riley .....Brattleboro
Blodgett, John Henry .....Bellows Falls
Bowen, Edwin Stratton .....Brattleboro
Bowen, Windsor DeForest ....Saxtons River
Buxton, George Delbert .....Proctorsville
Campbell, Edward Raymond ....Bellows Falls
Doane, Isaac Randall .....Springfield
Dunn, Stephen Farrar .....Wilmington
Gillette, Leon Henry .....Springfield
Gorham, Geo. H. .....Bellows Falls
Greene, Harry Paul .....Brattleboro
*Gregg, James W. .....Brattleboro
Hamilton, Fremont .....Brattleboro
Havens, Walter L. .....Chester Depot
Hazelton, William F. .....Bellows Falls
Hill, James Sutcliff .....Bellows Falls
Holton, Henry Dwight .....Brattleboro
Hunter, Geo. B. .....Brattleboro
Lane, Winfred Howard .....Brattleboro
Lawton, Shailer Emery .....Brattleboro
Miller, Ansel I. .....Brattleboro
Miner, Albert Lawrence .....Bellows Falls
Murray, Geo. G. .....Bellows Falls
Osgood, Frederick Luke .....Saxtons River
Osgood, Fred Luther .....Townshend
Page, Leslie Thomas .....Wilmington
Pratt, Chas. Sumner .....Brattleboro

Ray, Chas. Wm. .....Chester
Rice, Thomas .....Brattleboro
Rudden, John Thomas .....Bellows Falls
Stevenson, John Archibald .....Chester
Taylor, Herbert Wellington .....Brattleboro
Tucker, Henry .....Brattleboro
White, Peter Parrish .....Williamsville

*Died, February 2nd, 1916.

(34 members.)

WINDSOR COUNTY MEDICAL SOCIETY

OFFICERS

President.—Albert Clinton Eastman, Woodstock.

Vice-President.—Otto Vernon Greene, Bethel.

Secretary and Treasurer.—Dean Spencer Drake, White River Junction.

Censors.—Fred Thomas Kidder, Woodstock.

Delegate for two years.—Arthur Lionel Patch, Windsor.

Delegate for one year.—Fred A. Edmunds, Bethel.

Alternates.—Rolla Miner Chase, Rochester; Albert Clinton Eastman, Woodstock.

MEMBERS

Brewster, John Densmore .....Windsor
Burnett, Daniel L. .....Hartford
Burrell, Edmund Clay .....Barnard
Chase, Rolla Miner .....Rochester
Cram, Albert Monroe .....Windsor
Drake, Dean Spencer ....White River Junction
Eastman, Albert Clinton .....Woodstock
Edmunds, Fred A. .....Bethel
Fish, Edgar John .....So. Royalton
Gartland, Thomas Francis, White River Junction
Greene, Olin Duane .....Bethel
Green, Otto Vernon .....Bethel
Hazen, Cryus Hamilton .....Springfield
Huntington, William Millett .....Rochester
Kidder, Fred Thomas .....Woodstock
Kidder, Charles Warton .....Woodstock
Merriam, C. E. .....Rochester
Patch, Arthur Lionel .....Windsor
Roberts, Geo. X. .....Chester
Rogers, Verne Mooers .....Quechee
Stone, Everett Joseph .....Sharon

(21 members.)

Annual Meeting.—Third Tuesday in May.

Total membership of the Vermont State Medical Society, 373.

HONORARY MEMBERS OF THE VERMONT STATE MEDICAL SOCIETY

Conn, G. P. .....Concord, N. H., 1869
Watson, H. P. .....Manchester, N. H., 1887
Ramson, J. B. .....Dannemora, N. Y., 1889
Field, A. E. .....Barre, Vt., 1890
Douglas, O. B. .....Concord, N. H., 1891
Crothers, T. D. .....Hartford, Conn., 1892
Lyon, E. M. .....Plattsburgh, N. Y., 1892
Irish, J. C. .....Lowell, Mass., 1894
Shattuck, Frederick C. ..Boston, Mass., 1894
Porter, William H. ....New York City, 1895
Gordon, S. C. .....Portland, Me., 1895
Marcy, Henry O. .....Boston, Mass., 1896
Mabon, William ....Ogdensburg, N. Y., 1897
Stearns, Henry P. ....Hartford, Conn., 1899
Richardson, Maurice H. ..Boston, Mass., 1899
Lockhart, F. A. L. .....Montreal, 1899
Cook, Geo. H. .....Natick, Mass., 1901
Weeks, S. H. .....Portland, Me., 1901
Wiggin, F. H. .....New York City, 1901
Gordonier, H. C. .....Troy, N. Y., 1902
Crowell, H. L. .....Kansas City, Mo., 1903
Emerson, Francis P. ....Boston, Mass., 1904
Scudder, Chas. L. .....Boston, Mass., 1905
LeFevre, Egbert .....New York City, 1906
Arnold, H. D. .....Boston, Mass., 1906
Gile, J. M. .....Hanover, N. H., 1907
Pisek, G. R. .....New York City, 1908
Haynes, I. S. .....New York City, 1908
Scripture, E. W. .....New York City, 1908
Cabot, R. C. .....Boston, Mass., 1909
Syms, Parker .....New York City, 1909
Dodd, W. J. .....Boston, Mass., 1910
Lloyd, Samuel .....New York City, 1910
Hodskins, M. B. .....Palmer, Mass., 1911
Crile, G. W. .....Cleveland, O., 1911
Albee, F. H. .....New York, 1911
Golden, John F. .....Chicago, Ill., 1912
Daland, Judson .....Philadelphia, Pa., 1912
Anderson, John F. ..Washington, D. C., 1912
Shaw, Henry L. K. ....Albany, N. Y., 1913
Erdmann, John F. ....New York City, 1913
Adami, J. G. .....Montreal, 1914
Peck, Chas. H. .....New York City, 1914

PRESIDENTS OF THE VERMONT STATE MEDICAL SOCIETY

Porter, Ezekel .....Rutland, 1814
Gridley, Lelah .....Rutland, 1815
Gridley, Lelah .....Rutland, 1816
Huntington, Ebenzer .....Rochester, 1817
Gallup, Joseph A. .....Woodstock, 1818
Gallup, Joseph A. .....Woodstock, 1819
Gallup, Joseph A. .....Woodstock, 1820
Gallup, Joseph A. .....Woodstock, 1821
Gallup, Joseph A. .....Woodstock, 1822
Gallup, Joseph A. .....Woodstock, 1823
Gallup, Joseph A. .....Woodstock, 1824
Gallup, Joseph A. .....Woodstock, 1825
Gallup, Joseph A. .....Woodstock, 1826
Gallup, Joseph A. .....Woodstock, 1827
Gallup, Joseph A. .....Woodstock, 1828
Shedd, Josiah .....St. Johnsbury, 1829
(No meetings until 1841.)
Burrill, John .....Woodstock, 1841
Burrill, John .....Woodstock, 1842
Dana, Anderson G. .....Brandon, 1843
Dana, Anderson G. .....Brandon, 1844
Eaton, Horace .....Enosburg, 1845
Spaulding, James .....Montpelier, 1846
Spaulding, James .....Montpelier, 1847
Chandler, John L. .....St. Albans, 1848
Chandler, John L. .....St. Albans, 1849
Allen, Charles L. .....Middlebury, 1850
Goldsmith, Middleton .....Rutland, 1851
Palmer, B. W. .....Woodstock, 1852
Thayer, G. W., Jr. .....Northfield, 1853
Warner, E. D. .....New Haven, 1854
Perkins, Joseph .....Castleton, 1855
Carpenter, Walter .....Randolph, 1856
Stevens, H. F. .....St. Albans, 1857
Allen, Charles L. .....Middlebury, 1858
Knights, A. E. .....Springfield, 1859
Morgan, B. F. .....Bennington, 1860
Woodward, Adrian Theodore .. Brandon, 1861
Stiles, J. N. .....Windsor, 1862
Bradford, P. D. .....Northfield, 1863
Fassett, O. F. .....St. Albans, 1864
McCollom, William .....Woodstock, 1865
Warner, E. D. .....New Haven, 1866
Frost, C. P. .....Brattleboro, 1867
Richmond, J. S. .....Woodstock, 1868
Janes, Henry .....Waterbury, 1869
Putnam, S. .....Montpelier, 1870
Upham, Edward Fisk ..West Randolph, 1871
Holton, Henry Dwight ....Brattleboro, 1872
Butler, L. C. .....Essex, 1873
Butler, L. C. .....Essex, 1874
Butler, L. C. .....Essex, 1875
Dunsmore, George .....St. Albans, 1876
Chandler, C. M. .....Montpelier, 1877
Bullard, G. B. .....St. Johnsbury, 1878
Thayer, S. W. .....Burlington, 1879
Jackson, John Henry .....Barre, 1880
Sherwin, O. W. .....Woodstock, 1881
Bingham, Leroy Monroe ....Burlington, 1882
Clark, S. S. .....St. Albans, 1883
Draper, Joseph .....Brattleboro, 1884
Kemp, D. G. .....Montpelier, 1885
Brooks, S. .....St. Johnsbury, 1886
Campbell, Edward R. ....Bellows Falls, 1887
Clarke, John Murray .....Burlington, 1888
Brown, H. S. .....St. Johnsbury, 1889
Jenne, James Nathaniel ....St. Albans, 1890
Caverly, Charles Solomon .....Rutland, 1891
Wilder, H. R. .....Swanton, 1892
Bisbee, Arthur B. .....Montpelier, 1893
Linsley, Jo Hatch .....Burlington, 1894
Branch, C. F. .....Newport, 1895
Stoddard, Frederick Robert ..Shelburne, 1896
Rogers, Lyman .....Bennington, 1897
Lawton, Shailer E. .....Brattleboro, 1898
Crain, Mark Richards .....Rutland, 1899
Huntington, Wm. D. .....Woodstock, 1900
Wheeler, John Brooks .....Burlington, 1901
Pond, Edmund Morse .....Rutland, 1902
Bryant, William Nelson .....Ludlow, 1903
McSweeney, Patrick Eugene..Burlington, 1904
Chandler, Myron L. .....Barre, 1905
Hawley, Donley Curtis .....Burlington, 1906
Gorham, George H. .....Bellows Falls, 1907
Peck, Chas. W. .....Brandon, 1908
Havens, Walter L. .....Chester, 1909
Tinkham, Henry Crain .....Burlington, 1910
Kidder, Fred Thomas .....Woodstock, 1911
Stone, Bingham Hiram ....Burlington, 1912
Miner, Albert Lawrence ..Bellows Falls, 1913
Townsend, Wm. Warren .....Rutland, 1914
Ross, Edward Harlan ....St. Johnsbury, 1915

William Louis Rodman, M. D.

William Louis Rodman, M.D., Philadelphia; aged 57; president of the American Medical Association; died at his home, March 8, from pneumonia, after a short illness.

Dr. Rodman was born in Frankfort, Ky., Sept. 27, 1858. He was the son of General John Rodman, who for many years was Attorney General of Kentucky. His preliminary education was received at the Kentucky Military Institute, from which he was graduated in 1875, with the degree of M.A. He later received the degree of LL.D. from his alma mater. He commenced the study of medicine under the preceptorship of his uncle, Dr. James Rodman, and his cousin, Dr. W. B. Rodman, and graduated from Jefferson Medical College in 1879. After a service as intern in Jefferson Hospital, he entered the United States Army as acting assistant surgeon and for nearly two years was stationed at Fort Sill.

In 1882 Dr. Rodman was married to Betty C. Stewart, daughter of the late Dr. J. Q. A. Stewart, a well known alienist of Kentucky. He then practiced for about two years in Abilene, Texas, after which he removed to Louisville and was appointed demonstrator of surgery in the Medical Department in the University of Louisville and clinical assistant to Dr. David W. Yandell. He held this position from 1889 to 1893, when he resigned to accept the professorship of surgery in the Kentucky School of Medicine, Louisville. In September, 1898, he was made professor of principles of surgery and clinical surgery in the Medico-Chirurgical College of Philadelphia, and moved to that city. From 1900 to 1908 he was also professor of surgery and clinical surgery in the Woman's Medical College of Pennsylvania, Philadelphia.

Dr. Rodman was president of the Association of American Medical Colleges in 1902 and 1903, and it was largely through his efforts as president of this organization that the National Board of Examiners became possible. Dr. Rodman was deeply interested in this project of standardization of examination for medical licensure and was instrumental in securing the financing of the work. He was also president of the Philadelphia Medical Club in 1910, and was a member of the College of Physicians of Philadelphia, the American College of Surgeons, American Surgical Association, International Surgical Association, and Association of Military Surgeons of the United States. He was also a member of the staff of Blockley and the Presbyterian hospitals, Philadelphia. In 1915, Dr. Rodman was commissioned first lieutenant, Medical Reserve Corps, U. S. Army.

His chief contributions to the literature were the oration on "Gastric Ulcer"; a paper on "Cancar of the Breast" read before the British Medical Association in 1904; a monograph on "Disease of the Mammary Gland," which appeared in 1908, and chapters contributed to the "International Text Book of Surgery," Keen's "System of Surgery," and Bryant and Bush's "Practice of Surgery."

HEMIPLEGIA

In a preliminary report, S. I. Franz, M. E. Scheetz and A. A. Wilson, Washington, D. C. (*Journal A. M. A.*, Dec. 18, 1915), report experiments and clinical observations to test whether the late residual effects of hemiplegic attacks cannot be improved or done away with to a large extent at least by proper treatment, although in the text books this is asserted to be not the case. They took patients in whom improvement could not be expected according to the neurologists, long standing hemiplegics with contractures, five in number, and give case histories. The only limitation was that the patients should be young and the treatment extended over four months. The arm segment being most affected in all cases was chosen for the treatment. Three general methods were employed: massage, and vibration, passive movements, and attempts to get the patient to make voluntary movements of the extensor muscles, and improvement was observed in all. One of the cases is doubtless a cortical one, another has been thus diagnosed and the other three have signs which indicate more plainly capsular lesions. One case was definitely traumatic, another probably arteriosclerotic. One is definitely syphilitic and the remaining two probably or possibly specific. They conclude from their experience with these cases that no kind of cerebral paralysis should be consigned to the chronic or incurable class, but should be intelligently dealt with like any surgical case and effort be made to relieve it if not to cure. Properly used massage, passive movements, hot baths and packs, followed or accompanied by attempting to obtain, on the part of the patient, voluntary use of the muscles, should be the treatment in every case. The authors speculate a little in trying to explain these results and their bearing on the physiology of the brain. We should probably not speak of permanent paralyses but of uncared for paralyses.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 5 $1.00 per Annum

Rutland, Vermont, May, 1916.

Original Papers

CLINICAL NOTES ON ALCOHOLIC MULTIPLE NEURITIS

CHARLES H. DEAN, M.D.,
Salisbury, Vt.

Read before the Annual Meeting of the Vermont State Medical Society, October 14, 1915.

Many toxic substances are capable of causing a polyneuritis, and among them alcohol causes by far the greater number. There are certain characteristics of the alcoholic multiple neuritis which are quite distinctive, such as the paralysis of the anterior tibial muscles, with the resultant foot drop, and the associated mental symptoms. The syndrome was described by Korsakow in 1887 and has since borne his name.

This condition is especially of interest, as it occurs in that group of persons, rather inclined to be neurotic, who develop delirium tremens and the alcoholic insanities, and is a cause of confusion in diagnosis and uncertainty in prognosis when not differentiated from those less serious affections. The less striking cases may easily be overlooked, and this I believe to be true in my own experience, as my series is headed by a particularly typical case. I could then see other cases and I have no doubt I had previously missed them.

Dana states that alcoholic multiple neuritis occurs most often in the female, owing to the fact that alcohol poisons the nerves of women more than of men, perhaps because of tea drinking. It so happens that my cases were all males, though there was an equal number of females of the same social status under observation. It also appears that most cases develop in early adult life.

This is essentially an affection of the peripheral nerves. The onset is quite abrupt, usually with pain and disturbed sensation which may continue to be distressing throughout the course of the disease. This sensory disturbance may be sufficient to keep the patient from work or at least lead him to seek a change of occupation. In other cases the paralysis or the mental change may first cause the incapacity.

When the paralysis develops, the extensors of the toes and foot are first affected, so that in mild cases, with the patient up and about, he can not raise the toes from the floor while standing on his heels. With the patient in bed the foot falls in line with the leg, the toes are flexed and lie close together. In fact, foot drop is as characteristic of alcoholic polyneuritis as wrist drop is of lead palsy. If the disease progresses,

other groups are affected till all movement of the legs becomes impossible. The arms, trunk and face usually escape, but may become affected in varying degrees. In the paralyzed limbs the tendon reflexes are lost and, unless improvement takes place, contractures develop. Muscular atrophy is pronounced. There are all degrees of electrical changes, but in well marked cases there is an early loss of the reaction to the faradic current and a lessened reaction to the galvanic current. Dana calls attention to the point that in anterior poliompelitis, on the other hand, the diminution in the galvanic irritability comes on only after some weeks.

The mental changes in alcoholic polyneuritis are very characteristic but may, in some cases, be unpronounced. The mental symptoms usually follow the development of the neuritis, though occasionally the neuritis appears during what seemed at first to be an attack of delirium tremens. First there is a stage of acute confusion with hallucinations and more or less complete disorientation. Then there develops the peculiar phenomenon sometimes spoken of as fabrication. While he is able to recognize his surroundings and those about him and is able to answer questions and talk coherently, he will at the same time tell the most impossible stories. He is not willfully lying but is seriously telling what he believes he has been doing. He may have been confined to his bed for days or weeks yet will tell of trips to various places, of dances and jollifications, of visits to various cities and the persons with whom he has spent his time. When recalled to the present he appreciates its reality, but the narrative he has been relating is, to him, no less real. An analysis of his story shows that he speaks with knowledge, the scenes he describes are real and the events have taken place. They are in reality memory pictures from his past life brought down to the last few hours or days. In other words, though recognizing the present, the memory for the immediate past is lost. The last few hours or days are a blank, though during that time he was conscious and seemed to appreciate, and he unconsciously fills the hiatus with old memories.

Gradually the mental picture improves with or without an improvement in the physical condition. He may regain his normal mental state or there may be a permanent mental impairment.

A few cases came under my observation at the Northampton State Hospital and I am indebted to the Superintendent of the hospital for permission to report them. I have selected three histories. The first case I recognized was:

J. J. C. Admitted Nov. 8, 1909, male, age 33, married, bartender. It was reported that he had drunk from one to two pints of whiskey daily for two years. About six months before admission he had to leave off work because of pain in his legs. Later, because of this pain, he went to a general hospital. About four weeks before commitment he developed hallucinations. These continued and he became acutely delirious and for three days he had to be restrained in bed.

On admission he was confused, knew nothing of time or place and could give no information concerning himself. Hallucinations of sight and hearing were constant. There was pain in the legs which was increased by pressure along the nerves. He could not support himself on his legs but could move them in

bed. Within a week there was mental improvement so that hallucinations were less annoying and he slept well. He could still move his legs. He could not stand or even lift his toes from the floor with the heels down. The arms were not involved. He did not know where he was, or realize that he remained day after day in bed. He told of being out the night before, of going to dances or other frolics and meeting many people. He never told the same story twice, and could not even recall the last to repeat it during the same conversation.

Two weeks after admission there was muscular twitching of the arms, numbness of the hands and feeble grip. He was then so acutely confused that the fabrication was lost in incoherent speech. Six weeks after admission he was free from hallucinations and delusions and there was no more fabrication. His insight improved so that he appreciated his physical condition and was worried by it. There was then total paralysis of the legs. He had regained normal use of his arms and was able to help himself and get about in a wheel chair. He read, played cards well and talked rationally. Electrical and massage treatments were continued though without apparent result. He was discharged seventy days after admission mentally recovered and physically unimproved. It was later reported that treatment had been kept up and that he regained normal use of his legs and went to work a year after discharge.

Case II.—J. C. Admitted Nov. 24, 1911, male, age 30, single, machinist's helper. He had been intemperate. There had been symptoms of acute alcoholic insanity for one day. A slight paralysis of the legs had been observed, duration unknown. He was confused and his statements were so conflicting that no information was obtained. His gait showed some paralysis of the legs though when at rest there was no foot drop. He was experiencing considerable pain.

For several days the characteristic fabrication was observed. He would tell of his activities that day while in fact he had been in bed. He made an uneventful recovery and in six weeks the pain, paralysis and psychosis had entirely disappeared and he was discharged. The next season he was selling score cards at a ball game. He seemed to be well, but at best was but a simple minded fellow.

Case III.—W. O'C., was admitted Aug. 27, 1910; male, age 43, widower, building contractor. The occasion for his commitment was an attack of mental depression following the death of his wife and a period of unusual intemperance. He went home recovered in two months. His brothers with whom he was associated in business, reported that he was not as efficient in business as before and he continued to use alcoholics to excess. He was readmitted Dec. 13, 1911, sixteen months after his first admission. Seven weeks before his readmission he had collapsed on the street and was taken to a general hospital. He became confused and developed delusions.

On his return to the hospital he seemed very much broken both mentally and physically. His incoherent and indistinct speech, expressionless face and general tremor suggested an organic lesion. These symptoms improved, however. He knew where he was and recognized persons but had no idea of time. The next morning he did not know where he was, but thought he

was in another city. He still called the physicians by name correctly. Five days later he told of having been in New York the day before and of having seen a fire in Brooklyn. On other occasions he spoke of visits to other cities. While telling these stories he knew that he was in bed but could not understand that he had been there all day or the day before. Two weeks after admission he experienced pain in his legs. Improvement was very slow though he developed but slight paralysis. When he became able to walk about, he dragged his toes and was easily tired. He never recovered full strength though he was not crippled. He recovered from the acute psychosis but his mind was seriously impaired. Eight months after admission he went home. He proved to be incapable of doing business and he drank heavily. In a month he returned to the hospital at his own request and has since remained there.

I offer these notes not with the idea of presenting anything new or original, but to call attention to this troublesome syndrome with the hope that we can more readily recognize it if we can but clearly visualize it.

DISCUSSION ON DR. DEAN'S PAPER

Dr. Sears:—It is rather unfortunate that I did not hear the paper read, but I suppose I may discuss it. I judge from what little I did hear in the last few minutes that the doctor rather took up the anomalous cases and not the ordinary cases, which we all have seen many times, with drop foot and drop toes, etc. In my experience here I have had several cases that have been diagnosicated as locomotor ataxia, and when I came to analyze them they were found to be simply alcoholic multiple neuritis. Now, in alcoholic multiple neuritis you may have a good many of the symptoms of locomotor ataxia. In very chronic cases there is loss of kneejerks. You get the Romberg sign, but you do not get an Argyle-Robertson pupil, nor do you usually get much trouble from the bladder. The pains may somewhat resemble those of Labes. So we get three out of four of the cardinal symptoms of locomotor ataxia, and that, I suppose, is the reason why these mistakes are made. Of course this diagnosis is important, because one case is curable and the other incurable. But I have noticed another form of alcoholic multiple neuritis where the patient shows no signs, except, perhaps, a very slight lameness or hesitancy in gait. And in many of these cases there is an apparent drying of the tissues, and sometimes one or two of the toes will become gangrenous. In some cases the patient will not lose his kneejerks and he will be in a fairly good condition so as to get around, and will show signs of a mild psychosis with more or less loss of memory.

The Chairman:—One minute more.

Dr. Sears:—Cannot I stop before that? (Laughter). The little I heard I enjoyed, and I know Dr. Dean gave a very full account of the disease.

NEISSERIAN INFECTION COMPLICATING PREGNANCY

O. N. EASTMAN, M.D.,
Burlington, Vt.

Read at the Meeting of the Burlington and Chittenden County Clinical Society, March 30, 1916.

Neisserian infection was recognized in 16 per cent of the cases treated in the Maternity Ward during the last six months. That this number is greater than occurs in private practice is not to be doubted. The condition, however, is prevalent enough to merit the attention of one practicing obstetrics, lest the infection should be overlooked. The presence of a Neisserian infection should be regarded seriously, for not only the

mother's health may be ruined by its presence, but ophthalmia neonatorum may develop in the child with resulting blindness in a few cases. The instillation of silver nitrate in the infant's eyes soon after birth as prophylaxis is of great value, but even this treatment fails in a small number of instances to produce the desired results.

It is not the purpose of this paper to bring to your attention definite conclusions, based on cases treated. The total number treated to date is too small to make conclusions of value. Neither have I anything new in the treatment of Neisserian infections; the condition has been treated in so many different ways already, that one is at a loss to know which form of treatment should be employed to give best results. So it is desired to give you the record of a few cases treated by a selected manner and to present three cases which illustrate different types of the disease which may be encountered.

This infection is often overlooked during pregnancy, owing to the fact that troublesome symptoms may not be present when the condition is chronic; an acute process, however, produces subjective symptoms which as a rule bring the patient to a physician.

Frequency of urination, with or without dysuria, accompanied with an excessive vaginal discharge that in the non-pregnant woman would immediately excite the suspicion of a physician, is in a pregnant woman frequently ascribed to pressure of the foetus and passive congestion incident to pregnancy, and the infection passes untreated to the sub-acute and chronic vaginitis or cervicitis with an extension of the process post-partum.

The pregnant woman is more susceptible to Neisserian infection than one not pregnant, due to the softening of the tissues and excessive secretions which accompany normal pregnancy; likewise, a chronic infection may light up, producing a more active infection at this time.

Leucorrhoea, presence of pus cells in the urine, or evidence of local inflammation sugest the need of a microscopical examination of the secretions, and the absence of the organism in one examination should not negative the existence of infection. I have examined smears from the uretha, vagina and cervex of a patient and found no biscuit-shaped dipplococci in the secretion from the urethra and vagina, while a smear from the cervix contained a pure culture. The germs may be found at times in the ducts of the vulvo-vaginal glands or in the ducts of the urethra where a more superficial examination would not reveal their presence. More commonly, however, the influence of pregnancy on the course of gonorrhoea is quite marked, an exaggerated degree of the histological and anatomic changes occurring as during menstruation; and extension to the endometrium and adnexa is particularly liable to take place. Under these circumstances, pregnancy may be interrupted, or gestation may proceed to term. Complications such as arthritis, endocarditis, and general peritonitis are more likely to take place than if pregnancy were not present.

After delivery, under the most favorable conditions, about one-fourth of the women suffering from gonorrhoea at the time of delivery develop puerperal infection, febrile symptoms developing 3 to 10 days or later after delivery. Malaise, headache and a temperature rare-

ly above 102.5 degrees, nausea and vomiting may be present.

A high temperature, 104 degrees, was present in two of my cases. Ordinarily, this would indicate a mixed infection; such was evidenced by the smears examined from one of these cases.

It is stated generally that gonorrhoeal infection lowers the patient's resistance against other forms of infection, making mixed infection the more probable.

The pulse rate as a rule runs an even course with the temperature, the marked evening rise and the morning remission, so characteristic of the more virulent forms of puerperal infections are absent. The usual manifestations of fever are present.

Pain over the lower abdomen is always present.

The lochia is increased gradually, is chocolate colored when blood is present, and is yellowish white later; not exceptionally, the lochia becomes diminished owing to its retention in the uterus. The condition is usually accompanied with temperature rise.

Involution of the uterus is delayed.

The infection may run a mild course, acute symptoms lasting only a few days or in cases where the infection is more severe and the patient's resistance proves less, the acute symptoms may run over a period of weeks an in the majority of cases, semi-invalidism incident to chronic pelvic inflammation results. Sterility is usual, impregnation seldom occurs after the infection has extended above the internal os. Masses due to gonorrhoeal infection as a rule do not disappear, but become chronic and produce disability.

Treatment

During pregnancy, systematic treatment to prevent extension and to eradicate the process should be employed. Rest is essential. The patient should spend her time between the bed and a recliner until acute symptoms have subsided. This minimizes the danger of the infection spreading, it also hastens the absorption of exudates.

In bed, a semi-upright position is preferred, as drainage is an important factor in the treatment; sterile absorbent napkins should be used by the patient and changed frequently, to be burned as soon as removed.

Constipation should be combated by mild laxatives. Enemas should rarely if ever be used, as there is danger of introducing the secretions to the rectum with resulting gonorrhoeal proctitis. The germ will not find its way into the rectum unless carried in.

Douches are to be employed often enough to prevent a collection of pus in the vagina, two a day advised at first. I am using two teaspoonfuls of tincture of iodine to a quart of warm normal salt solution or 5 grains of potassium permanganate to a quart of warm water. depending on amount of inflammation present. The former produces severe smarting sensation if the vaginitis is extensive. These are given with the patient in semi-reclining position, for they are simply cleansing douches; drainage is better and there is less danger of carrying solution into the uterus. with the patient so placed. Bichloride douches, I believe, are not to be employed, as they are irritating, the mercury is precipitated by the albumen secretion in the vagina, a dirty solution lacking antiseptic properties results. I mention this because this solution is so generally advised and employed. Every third day, a sterile speculum is introduced into the vagina and alternately

a 10 per cent solution of Nitrate of Silver and 25 per cent solution of iodoform in glycerine is introduced, completely smearing the passage. This solution is carried by a cotton tipped applicator into the external os in cases where endocervicitis is present. Medication should be gentle, as labor may be started by manipulation of these parts. Less irritation results where solutions named are alternately employed.

By spreading the labia with thumb and forefinger of left hand, before introducing douche tip or speculum, the introduction of bacteria from these parts is minimized. The adoption of this routine is most important, as the labia always contain pathogenic bacteria on their surfaces and we should be careful lest we introduce these germs into the vagina, where conditions are especially favorable for their development.

In the sub-acute and chronic conditions, fewer douches are employed, the patient is not confined to bed, but should apply every third day for treatment as outlined above. An infected urethra or vulvo-vaginal gland should receive special treatment; incise the whole duct after injecting a 2 per cent solution of cocaine and apply locally a 25 per cent solution of nitrate of silver. It may be advisable to excise an infected vulvo-vaginal gland, this should be resorted to if the above treatment fails to clean up the infection. An abscessed vulvo-vaginal gland should be freely incised under local anesthesia and packed with gauze saturated with iodoform 25 per cent in glycerine. In multiparas and occasionally in a primipara, the cervix on inspection will show small purulent cysts near the external os. These should be incised with a spear point bistoury. This ordinarily gives the patient much relief.

The antisceptic action of the show preceding delivery, the gush of liquor amnii, in reality a sterile douche from within, followed by a mopping of the birth canal with the exit of the child, more liquor amnii douching the passage and lastly, a second mopping incident to the expulsion of the placenta, is far more effective than douches during and following labor, and it is probable that any douche dilutes the normal antisceptic solution already in the birth canal.

The child's eyes are treated as soon as the head is expelled, a 2 per cent solution of nitrate of silver instilled in either eye.

Post partum extension of the infection to the uterus and tubes should be combated by having the patient in bed in a semi-upright position. A dram of Fluid Extract of ergot every four hours contracts the uterus and inhibits a spread of the infection upward. Douches post partum or intra-uterine medication is contra-indicated, and vaginal examination and operative deliveries are avoided when possible.

In the minority of cases, when the process does spread upward, cool applications are applied to the abdomen. This tends to localize the process and it gives the patient relief from the pain which is always present. Atropin Sulphate grain 1-100 every 4 to 6 hours is the drug which in my cases has proved most valuable.

Vaccine therapy has failed to be of service. As soon as the temperature reaches normal, hot application to the abdomen and warm douches hasten the absorption of exudates; this treatment may be supplemented with ichthyol or boroglycerid tampons. The value of fresh air and sunlight should never be overlooked, these tonics do much good in

supporting our patients during a protracted convalescence. Operative interference is advised only when it is possible to open a well defined collection of pus, or in rare cases of general peritonitis.

Any manipulation at the onset of uterine infection will in the majority of cases tend to the formation of exudates; avoid such.

To puncture a perimetritic collection of pus, first paint vagina with iodin, draw cervix forward and make transverse incision behind the cervix, stretch opening with finger and puncture abscess with finger.

Cultures for examination post partum are taken through a Menge tube: a glass tube eight inches long of small caliber is heated near one end and bent so as to fit the cervical canal, the lumen of the tube is strung with a piece of string to the end of which is attached a small rubber band, this is drawn into the tube. After boiling the tube it is carried into the uterus, the tube is readily filled with the uterine secretions by making traction on the string. Both ends of the tube are sealed by heating in a flame. The secretions in this way are conveyed in a sterile tube to the laboratory and contamination is impossible.

Case I

Admitted to ward Dec. 7, 1915.

History.—Patient 8 months pregnant, gestation normal until about a month ago when inflammation developed, accompanied with painful urination and discharge.

At present complains of pain and swelling.

Examination-T-99 4-10 degrees P-128.

Right vulvo-vaginal gland abscessed; cocaine infiltrated and gland freely incised, packed with iodoform emulsion 25 per cent.

Routine treatment for acute gonorrhoeal infection.

Patient delivered Jan. 10, '16. Fld. ext ergot dram 1-2 given Tid.

Convalescence normal, patient discharged Jan. 25.

Lochia purulent, discharge contains many bacteria but no Neisserian germs noted. Uterus sensitive and mobility normal with fair involution.

Conclusion.—Patient had no febrile symptoms during puerperium; it seems probable that the infection did not extend above the internal os.

The lochia 15 days after delivery is laden with bacteria; though there should be no pathogenic bacteria, Saprophytes are always numerous.

Case II

Mother of five living children.

Five of six deliveries high forceps — one version.

In 1912 had operation for gall stones: 1915, appendix removed and adhesions around gall bladder separated.

Head presents at superior strait, not engaged.

Cervix contains deep old lacerations.

Labor begin Dec. 1, '15, pains lasting 1-2 to 1 minute and recurring at 3 to 5 minute intervals.

Ether administered, cervix dilated by Harris method and child, 8 lbs., delivered by podalic version.

Puerperium normal until Dec. 6 when pulse rose to 100 and temp. to 99.8 degrees.

Uterus had involuted from 6 inches above the symphysis to 4 in.

Dec. 7. temp. 104 degrees, Pulse 124. The temperature run an even course be-

tween 100 degrees and 102 degrees until the 14th, or 8 days after the initial rise, when it returned to normal and remained so until the patient was discharged on Dec. 20th.

Examination when patient discharged showed a uterus sub-involuted, the fundus three inches above the symphysis and non-mobile.

Smears taken on Dec. 6th showed many Neisserian germs, and no other forms noted.

Conclusion.—Patient doubtless has had a chronic gonorrhoeal process which lighted up post partum, due to the conveying of germs from the vagina to the uterine cavity. Her resistance was good, as is usually the case in chronic infections, and the acute process quickly became sub-acute.

Chronic invalidism can be predicted, with sterility resulting.

The infection in this case was overlooked, acute symptoms not being present to call our attention to her infection. This case suggests the need of routine smear examinations.

Called to see patient who had been delivered Feb. 5, 1915, 15 days before

Patient dressed and around the house doing some work assisted by her nurse who has been present since delivery.

Patient is pale, complains of pain in lower abdomen and marked weakness. She states that her delivery was normal in every way, that the milk filled the breast 48 hours after delivery, and that three days after delivery she developed fever and pain in the lower abdomen, worse on the left side, until the seventh day when the pain was worse on the right side and has continued to date. She left her bed on the ninth day. She states that pregnancy was normal except that leucorrhoea with painful and frequent urination was present during the last two months.

Examination.—Patient looks ill. T-100.2 degrees, Pulse 112.

Hard mass palpated lower right abdomen; it extends 4 inches in from the anterior spine of the ilium and 4 inches above the symphysis, in the median line.

Culture taken through tube from uterine cavity shows many biscuit-shaped diplococci with other germs present.

Patient continued to run a temp. from 100.2 degrees as high as 104 degrees on Mar. 3, with a pulse of 140 at that time. Mar. 13, temp. was normal and the lochia became purulent. It has been bloody until this time.

Uterine began to involute and Mar. 27 was just above the symphysis; the mass in the right side was little smaller however.

Patient made steady progress to recovery under treatment, pain was not troublesome after Feb. 27, and patient was out of doors the last of March.

She menstruated May 14 to 19.

Aug. 14 she called at office and stated that she had not menstruated since May.

Examination.—Fundus of uterus 2 inches above the symphysis, cervix soft.

Pregnancy at the 4th month diagnosed, the mass was present in the right side as before and I advised its removal, explaining the danger of rupture with peritonitis following and the danger of a miscarriage.

Patient returned in Oct. complaining of pain in right abdomen. I insisted on an operation and the following day a tubo ovarian mass was excised which measured 3 by 4 inches, and was filled with thick pus which on examination contained no germs.

A second operation became necessary the next day to ligate a leaking vessel

and a premature delivery occurred three days later.

Patient made a good convalescence.

Conclusion.—This case represents a severe post partum infection. Doubtless she developed an acute infection at the seventh month which extends upward after delivery. The case is unusual in that pregnancy followed an infection with marked pathological changes.

Involution of the uterus delayed. Gonorrhoeal infection soon after delivery likely to run a severe course.

Premature delivery would not have resulted, I believe, had not the second operation become imperative.

POST-GRADUATE COURSE AT BURLINGTON

The fourth number of the post-graduate course of clinics and lectures of the Burlington and Chittenden Clinical Society was held at Burlington, Thursday, the 27th of April, by Dr. William Seaman Bainbridge of New York.

The societies surrounding Chittenden County were invited to join in the meetings and many men from other parts of the State were present.

In the morning at 9:30, at the Mary Fletcher Hospital, Dr. Bainbridge, assisted by Drs. McSweeney and Maynard, operated 5 cases. One of the breast with extensive glandular involvement was carefully dissected out, while one breast showing a thick walled galactocele was removed with simply the axillary glands and the underlying fascia.

Two neck cases were operated. One with cancer infiltrate secondary to a long standing. Epithelioma of the lower lip and one secondary to a cancer behind ear were dissected out with the greatest care.

The other case was lipomata of shoulder and epithelioma of nose.

This last case and one of the breast cases were operated under rectal ether anaesthesia administered by Dr. Wm. T. Johnson of New York.

Dr. Johnson explained the technic used and will present a paper on the subject in VERMONT MEDICINE in a coming number.

Dr. Bainbridge's clinic was most thoroughly appreciated by a hundred medical men present. His dissections were rapid and accurate and his descriptions clear.

At 2:30 in the afternoon at the lecture hall of the Medical College, Dr. Bainbridge gave his paper on *"Some Fundamental Causes of Disease."*

This was illustrated by about 200 lantern

This paper will appear in VERMONT MEDICINE in the near future.

In the evening at the Y. M. C. A. Hall, Dr. Bainbridge gave an address, "Some Glimpses of the Great European War," to the public on the conditions in Europe as he saw them during a six-months' visit to both of the contending armies.

Dr. Bainbridge was the principal speaker at the cancer study meeting in Vermont in June, 1915.

Dr. C. A. Porter of Boston will give the next and last number of this post-graduate course at Burlington May 25th.

MECKEL'S DIVERTICULUM

Meckel's diverticulum is present in some form in 2 per cent. of individuals, and is a rather common cause of intestinal obstruction. This is pointed out by A. S. Frasier, Dothan, Ala. (*Journal A. M. A.*, April 15, 1916), who mentions that when it becomes inflamed the symptoms closely resemble those of appendicitis and may be the cause of serious mistakes in diagnosis, the innocent appendix being removed and the real offender left untouched. The case he reports was diagnosed as acute gangrenous appendicitis with rather unusual obstructive features, probably due to paralytic ileus. The high location of the tenderness and the obstructive feature did not suggest the diverticulum as the cause at the time. Exploration, however, revealed a Meckel's diverticulum 4½ inches long, averaging 2 inches in diameter, coming off about 18 inches above the cecum. It was twisted a complete turn and its distal end enormously distended and adherent to the ileum about 12 inches from its origin. The proximal end communicated with the ileum by an opening 1 inch in diameter. Gangrene was threatened and rupture imminent. The obstruction was believed to be due to ileus dependent in some way on the twist in the diverticulum. The adhesions were freed without difficulty, the diverticulum ligated and removed, the stump inverted and the wound sewed. The patient's convalescence was uneventful.—Exchange.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

James Madison Hamilton, M. D., Rutland, Sec'y.
Charles Francis Dalton, M. D., Burlington, Treas.
A. Stuart M. Chisholm, M. D., Bennington, Editor.

All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.
The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., May, 1916.

Editorials

MEDICAL INSPECTION OF SCHOOLS

When the State asserts its authority over its people by compulsory education it tacitly assumes collateral obligations which cannot be rightly evaded. Its primary purpose is to instruct children and youth in those matters of common attainment which will fit them for honorable and useful lives as capable citizens, but it incurs the necessary obligation that during the process of instruction and while under the supervision of the regularly appointed educational directors, these children and youths shall be protected from avoidable harm. In the matter of inculcating generous and lofty ideals of life and character, so easily impressed on youthful minds, it is certain that the standard of instruction has been perceptibly lowered. It seems probable also that the contention is well-founded that efficiency has suffered from the multiplicity of studies that now distract youthful energy into numerous paths that can only be pursued imperfectly, as if education consisted in the acquisition of unrelated facts instead of in mental training, the cultivation of reason and the faculty of application.

Among these various collateral obligations, however, we are at present concerned with only one, viz., that of safeguarding the health of students and giving them a firm physical basis for a life of effective usefulness. Some progress has been made in this direction by the partly acquired control of infectious diseases; much has been quietly effected by the application of hygienic and sanitary principles to school-buildings, school-life and school-pupils; many intelligent parents have learned of the disastrous consequences of adenoids, decayed teeth and faulty postures, and have applied that knowledge to their own children, but it has long been recognized that these are insufficient. Supervision should be extended over all children and should consider details of inspection that cannot safely be left to parental care. Few parents have sufficient knowledge themselves, and with the great majority of them there is a profound indifference to their children's welfare in any direction. They are glad to have the little ones out of their way

and glad to thrust their own responsibilities on the shoulders of the school teachers. Parents, like potatoes, we have to take as we find them.

But we have no right to expect school-teachers to assume a vicarious parentage in duties which parents have selfishly shirked. They are hired for the specific purpose of instruction and they do their work conscientiously in the face of difficulties that are not always appreciated. But when they go beyond their strict duties and suggest the wisdom of getting medical advice for their pupils, they are often unjustly accused of surpassing the limits of their authority. We have known of their having to endure resentment and abuse for such suggestions. Nor are the teachers qualified by their training to do the necessary work. Many of them are not normal school graduates, and even in normal schools there is as yet no instruction in the recognition of the causes of delinquency in children. Some teachers can detect myopia, a few of them know something about adenoids, but all of them would pass by astigmatism without recognition, while deafness is generally ascribed to heedlessness alone.

So far from exaggerating the important influence of these defects upon the development of intelligence and character, it is not likely that any words of ours can illustrate, at all adequately, their lamentable consequences. Every one has been the dull-eyed dunce mount toward the head of the class when his adenoids had been removed, but every one does not realize that if his adenoids had not been removed he would have had a good chance of descending from a dunce to a criminal, as many have done. Astigmatism, too, when uncorrected, often leads to misdemeanours in childhood and to crimes in adult life. Eyestrain is a recognized cause of crime. In a recent number of VERMONT MEDICINE we mentioned casually, that the physical basis of crime was one of the topics on which Medicine has tried to enlighten the public mind and to stimulate the public conscience. These juvenile abnormalities will come in for consideration if we shall later spend a little time on this larger theme. Meanwhile, we simply state the fact that these physical defects stand in a causative relation to a state of perverted moral perception and to a result of perverted moral action. So much, briefly, for the importance of our subject.

And these physical defects are not rare. In the *Philadelphia Health Bulletin* of July, 1915, are a series of statistical tables which represent the prevailing conditions throughout the United States. We take our statistics thence for the simple and only reason that it is the first report that happens to come to hand. No selection has been made, for we have no purpose to present the matter unfairly.

Out of 469,199 children examined in Pennsylvania, 335,427 or 71.5 per cent were discovered to be defective. These defects we will tabulate, condensing the tables somewhat and premising that some children had more than one defect.

Defects of Vision	83,748	17+%
Other defects of Eyes (including)	5,512	
Corneal Scars	1,717	
Blepharitis	1,400	
Simple Conjunctivitis	1,237	
Strabismus	1,091	
Defects of Hearing	15,600	3+%
Defects of Breathing (including Adenoids)	22,887	4+%

Decayed Teeth	212,708	45+%
Enlarged Tonsils	123,222	26 %
Cervical Glands	22,874	4 %
Skin Diseases	6,296	
Tuberculosis	789	
Epilepsy	107	
Chorea	648	
Malnutrition	8,578	

In Vermont, in 1910, an examination was imperfectly made by the school teachers alone, unskilled in the details of careful inspection, and showed that out of 30,192 children, defects in vision and hearing alone were ascertained to exist in 9,498 of the pupils or approximately 31 per cent.

Now what is going to be done for these children?

Certainly this cannot continue without serious results. Is the State doing anything to remedy this condition? When defective childhood ripens into incapable manhood; when the State has heedlessly deprived itself of a large proportion of its available energies and allowed valuable lives to rot unused,—how will it have fulfilled its obligations to its citizens? These little, blighted children, struggling unaided toward light and freedom, are abandoned to the neglect of incompetent and selfish parents, to underpaid and already overworked school teachers,—in a word, to blind, haphazard chance. The parent neglects his duties to his offspring, the teacher fills his head as full as she can with a jumble of indifferent facts and the State refuses its help to its immature citizens. That is how, in May, 1916, we have decided that children should be brought up.

Now in all this there is nothing new. Doubtless the same ideas have already been better expressed many times. And something is being done — elsewhere than in Vermont. Medical Inspection of Schools seems to have had its beginning, so far as we can learn, in San Antonio, Texas, in 1890; it was adopted by Boston and a few Massachusetts towns in 1894, and swept over the land like a tidal wave in 1909-1910. In 1910. the legislature of Vermont *permitted* the towns and cities and the school committees of incorporated districts to appoint one or more Medical Inspectors for their schools, provided the legal voters should decide that such appointments should be made. Seven towns in this State availed themselves of this superfluous permission, but we do not find that the inspection was carried farther than an examination for defects of vision and hearing, and no attempt was made to discover the cause of these defects or to remedy them. More may have been attempted, more may even have been accomplished, but this is all that appears on the record. Thus the State evades its duty just as the parents have shirked theirs, and the State has not the excuse of ignorance that parents have. Children grow beyond parental control and themselves become negligent parents, and the State makes no effort to develop them into good and useful citizens.

It is always true that if you can prove any movement to possess more advantages than disadvantages, aside from the factor of personal inertia, that movement is certain to be sooner or later favored and adopted. In the matter under discussion the question of expense looms large before the eyes of the public. Let us examine this. New York City has 142 School Inspectors and 142 schoolnurses; Chicago has 100 Inspectors and 40 nurses; Boston, 80 Inspectors and 34 nurses, and smaller cities and towns have Inspectors or nurses or both in proportion to the school popu-

lation and to the amount of money appropriated for such purposes. The salaries of Inspectors range from 0 to $4,000 a year. There is perhaps no school district that cannot afford to pay an Inspector something, though in Vermont large salaries are impossible. The question is. "How much will it cost?", for that the project is a beneficent one no one can dispute. Dr. Dalton has given this much attention and his conclusions are before us. "Referring to the reports of the Superintendent of Education," he says, " we find that the average cost for each pupil per year, for school instruction was in 1911, $29; in 1912, $25.83; for 1914, $30.57. It is evident then that every child who is required to repeat a year's work is an added expense to the town of over $25. It is also evident that if the cause of the deficiency is found and corrected, so that the child is able to progress in the usual course, the town will be saved that much expense. To follow out this argument, there is probably not a town in the State where several such children would not be found, and their detection and cure would therefore pay the entire cost of inspection of all the children, besides giving the other children the benefit of such inspection. If these facts were brought down to the actual situation in each town, medical inspection of schools could be shown to be a money-saver as well as a benefit in many other ways." The economic loss due to sickness has long been urged as an argument in favor of improved methods for the prevention of disease. In this matter of the schoolchildren, the question is not of a few weeks' illness but of a whole lifetime blasted.

There are other ways in which Medical Inspection pays for itself. The early detection of incipient cases of mumps, whooping cough and scarlet fever has doubtless prevented epidemics of those diseases. The discovery of cases of tuberculosis has saved young lives for future usefulness. Diphtheria carriers have been found in a condition to spread the disease broadcast. It is possible that the early symptoms of dementia praecox can be detected at a time when suitable measures will succeed in averting insanity. In these cases, parent, nurse or teacher would alike fail to uncover the menace and here the Medical Inspector would be the only safeguard. Even on the despicable basis of a money return for money expended, the institution of medical inspection pays for itself. Larger and nobler considerations of value furnish overwhelming proof of its benefits.

THE NATIONAL BOARD OF MEDICAL EXAMINERS

The recent death of Dr. W. L. Rodman, President of the American Medical Association, which we noted in the April number of VERMONT MEDICINE, affords a fitting occasion to speak of the one especial achievement to which his public life was devoted,—the establishment of the National Board of Medical Examiners. It is often true that a trivial occurrence puts into one's hand the key to his future work, and doubtless an incident in Dr. Rodman's professional life made a powerful impression on his mind twenty years ago.

It happened in 1896 that he decided to remove to Philadelphia from Louisville, Kentucky, where he had held the chair of surgery for several years in the Kentucky School of Medicine. He went to Philadelphia and presented himself before the State Examining Board. On sitting down to write out his examination papers, he found at the same table

several young men who had been students in his classes in Louisville, and who were now taking the same examinations as their professor. The thought came to him, "What if these young men should pass and I should fail? I am rusty on Ophthalmology, Chemistry, Dermatology, Obstetrics, Diseases of the Nervous System and Contagious Diseases, and I know better than most persons how large an element of chance enters into such examinations as these." Dr. Rodman had a bad two hours and, although he passed the Board, he determined that the foolish system, under which he was himself suffering, ought to be abolished.

To this purpose he henceforth devoted his earnest efforts. And the cause was a good one. His purpose was not to lower the already inadequate barriers to incompetence and dishonesty, but to establish a national standard which should prevail universally through the United States and preserve a general test of merit which should permit the successful examinee to practice Medicine without the restraint of State boundaries as well as without the favoritism of local influences, and which should confer on him the right of selection and of removal anywhere he desired. This the American Medical Association had long recognized as necessary, and had long wished that this privilege might be annexed to its own membership, but obstacles existed which it deemed impossible to overcome.

In 1901, before the Committee on National Legislation of the American Medical Association, he outlined his idea of a Central Board. The next year another paper appeared in the *Philadelphia Medical Journal*, proposing the erection of a National Examining Board drawn from the Medical Corps of the Army, that of the Navy, that of the Public Health Service, the Federation of State Examining Boards besides some members of the general profession of Medicine, and before he died Dr. Rodman had the satisfaction of knowing that this body was at length organized and established as The National Board of Medical Examiners.

COMMON ERRORS IN EYE, EAR, NOSE AND THOAT PRACTICE

Dr Albert Wilkinson, before the Dallas Medical and Surgical Society recently, discussing the common errors in eye, ear, nose and throat work, said: Our mistakes are many, mostly due to carelessness. I don't mean in our major work, our operative work, but our every-day work in the office. Recently I had friends to come from the North. They knew but few people. They met a dentist in a social way, and shortly afterwards a boy in the family needed some dental work done. They sent the boy to this man's office, and he immediately began to examine the boy's mouth without ever washing his hands. He picked up mirrors without making any pretentions to sterilize them. He turned back to his laboratory for something, and during his absence the boy disappeared. The boy went back home, and his mother asked him what he did. He said, "Mother, I am not going to have that man do anything for me. He put his finger in my mouth without ever washing it." Our work about a man's face demands that we be careful.

We are frequently careless in our technique. I don't think there is any excuse for an eye, ear, nose and throat man being rough with his patient. We should every day of our lives practice a delicate touch. Two or three years ago one of the very prominent and highly respected surgeons of this city made the remark, that during his care of surgical cases he had never considered his patients' complaints when removing stitches, etc. By and by this surgeon himself had appendicitis and had some stitches to be removed. He said that ever after that he would certainly be careful with his patients, that he had developed a more gentle technique in handling them.

We also make mistakes very often in the individual attention we give to each patient. It is a great disappointment to our patients, and we lose them because of it, that we do not give them the time that is due them. It isn't fair to the patient not to thoroughly examine him. It isn't fair to the patient if he comes for treatment, just to drop a few drops in his eyes and dismiss him. We can't do our best work that way.

Another error is our relation to each other. I would rather have it said of me that Wilkinson will treat you fairly, than to have it said that he had the biggest practice in Dallas. I would rather have the respect of my fellow workmen than any people in the world.—*Texas State Journal of Medicine.*

Secretary's Page

The following names should be added to the 1916 Roster as it appeared in the April number.

Chittenden County
Dr. S. L. Goodrich, Waterbury
Dr. A. S. C. Hill, Winooski
Dr. L. McCambridge, Burlington
Dr. F. R. Stoddard, Charlotte

Franklin County
Dr. R. D. Flagg, Westfield

Orleans County
Dr. E. M. Cleasby, Orleans
Dr. A. M. Goddard, Albany

Washington County
Dr. L. A. Ruslow, Randolph

Windsor County
Dr. H. C. Jackson, Woodstock
Dr. C. E. Ward, Hartland
Dr. H. R. Weston, Windsor

This makes the total membership thus far — 384.

Changes from 1915 Roster.

Removed from the State:

Dr. R. S. Blood from Lyndonville to Concord, N. H.

Dr. J. C. Breitling from Lunenburg to Texas.

Dr. W. O. Brown from Lunenburg to Littleton, N. H.

Dr. G. S. Clark from Montgomery Center to Canada.

Dr. A. C. Freeman from Plainfield (address unknown).

Dr. F. E. Read from Forestdale to Akron, O.

Dr. C. C. Waller from Lyndonville to Warren, O.

Dr. J. J. Ross of Syracuse, N. Y., formerly a member of the Chittenden County Society, has removed.

Dr. Harley S. Herrick, Franklin County, and Dr. W. J. Tindall, Washington County, resigned.

Drs. B. J. Andrews, Burlington, Henry James, Waterbury, and M. R. Crain, Rutland, died during the year, and there are now 17 who were members in 1915 who have not paid 1916 dues.

* * *

The Executive Committee is now completing the program for the October Meeting at St. Johnsbury, and it is hoped definite announcements can be made in the June number. St. Johnsbury is planning extensively for this meeting and the Society is guaranteed a hearty reception and good entertainment and we hope the program will please.

* * *

The Publication Committee announces the following change:

The Department of "Progress in Medical Science" will hereafter be a review of the practical and important articles appearing in the literature. Each division will be in charge of a reviewer as follows:

Internal Medicine—Dr. C. H. Beecher, Professor of Medicine, University of Vermont.

Public Health—Dr. C. F. Dalton, Secretary Vermont State Board of Health.

Pathology and Bacterioloogy—Dr. C. F. Ball, Pathologist, Rutland Hospital.

Tuberculosis—Dr. H. S. Goodall, Late Superintendent Stony Wold Sanatorium.

For the divisions of Obstetrics and Surgery, the reviewers will be announced in the June issue.

TENTATIVE PROGRAM FOR VERMONT HEALTH OFFICERS' SCHOOL

(Subject to change later)

Burlington, Vermont
Wednesday Evening, July 5
8 o'clock

OPENING SESSION

Address of Welcome on Behalf of the City, Hon. A. S. Drew, Mayor of Burlington.

Address on behalf of the State, His Excellency, Governor Charles W. Gates.

Response and Address, Dr. Charles S. Caverly, President State Board of Health.

Illustrated lecture: Rural Sanitation with special reference to Typhoid Fever, Surgeon, Public Health Service.

Thursday Morning, July 6
9 o'clock

General Subject — Local Problems of Sanitation

"Sewage Disposal for Small Villages," Prof. J. W. Votey.

Discussion: Dr. R. D. Worden, Montgomery; Dr. C. H. Dean, Salisbury.

"Nuisances and their Abatement," Dr. A. H. Wright, Wilmington.

Discussion: Dr. H. A. Ladd; Dr. W. H. Mitchell, Shelburne.

"Pediculosis," H. H. Wheeler, South Burlington.

Discussion: L. W. Bush, Brookline.

Thursday Afternoon
2:30 o'clock
Subject — Milk

Address: Dr. E. R. Kelley, Massachusetts State Board of Health.

Discussion: Dr. J. C. Colby, Sudbury; Dr. F. C. Liddle, Dorset.

"Dangers from Milk Infection and How to Prevent Them," Dr. C. F. Whitney.

Discussion: Dr. C. M. Ferrin, Essex Junction; Dr. J. W. Stewart, Barre.

"Vermont Dairy Conditions," Special Inspector or E. S. Brigham.

Discussion: Dr. J. S. Hill, Bellows Falls; C. P. Moat.

Thursday Evening
8 o'clock

Infantile Paralysis: Dr. Lovett, Dr. Flexner, Dr. Amoss.

Friday Morning, July 7
9 o'clock
Subject — Communicable Diseases

Smallpox or Chicken-pox, Surgeon Public Health Service.

"Maintaining Quarantine," Dr. C. S. Leach, Hyde Park.

Discussion:

"Control of Venereal Diseases," Dr. W. W. Townsend.

Discussion: Dr. J. J. Derven, Poultney; Dr. E. H. Buttles.

Friday Afternoon
2 o'clock
Subject — Tuberculosis

"The Need of Local Control of Tuberculous Patients," Dr. Charles J. Hatfield, New York City.

Discussion: Dr. E. J. Rogers, Dr. William Lindsay.

"Methods of Conducting a Tuberculosis Campaign," Harold W. Slocum.

Discussion: Dr. F. H. Gebhardt.

"Tuberculous Meningitis as Distinguished from Infantile Paralysis," Dr. Charles S. Caverly.

Discussion: Dr. B. H. Stone, Dr. J. W. Estabrook.

Friday Evening
8 o'clock

"The Outlook for Vermont Rural Schools," M. B. Hillegas

Saturday Morning, July 8
8 o'clock

Address on Legal Matters, Hon. M. C. Webber.

Question Box.

Progress in Medical Science

INTERNAL MEDICINE

The following articles are of especial interest:

Fasting Treatment of Diabetes Mellitus.—Twenty-two diabetics were studied by Stillman with reference to the effect of prolonged fasting on acidosis. They were classified into four groups, based on the type of response to prolonged fasting as indicated by the degree of blood alkalinity. The result obtained showed that when the degree of acidosis present is determined daily all cases of diabetes may be treated by the fasting method safely and with benefit.—*American Journal of Medical Science,* April.

Colles' Law.—Kroon relates that Finger for a time was the only syphilologist who still admitted the possibility that a woman could bear a syphilitic child without being herself syphilitic, the Wassermann reaction having shown that many apparently healthy mothers of syphilitic children yet in reality were infected. Recently, however, some scanty testimony has been collected which sustains Colles' law. Ledermann has reported three cases and Nonne in the latest edition of his book mentions some cases in which the wives of men with tabes or paralysis bore syphilitic children and yet never responded positively to the Wassermann test or showed any signs or symptoms suggesting syphilis. To this small list Kroon adds a typical case corresponding in every point to the requirements of Colle's law. The robust woman of 28 had already had eight abortions when delivered of a child with numerous external manifestations of syphilis. Her husband had been infected with syphilis twelve years before but she seemed absolutely exempt and the Wassermann reaction in the blood was negative, at two tests with a month's interval. The child was twelve weeks old and had bloody discharges from the nose, cracks in the lips and papules at the anus. The woman fed the child herself, and Kroon, assuming that she was non-susceptible, did not attempt any treatment. —From *Nederlandsch Tijdschrift voor Geneeskunde,* Amsterdam, February 26.

Occult Blood with Gastric Cancer.—Emmert found occult blood in the stool or stomach content in all but one of twenty-one cases of what proved to be gastric cancer. This symptom is not only exceptionally constant but is present when the patient first applies to the physician, as a rule. In one of his cases there had been symptoms for only four weeks, and operation showed the cancer merely as a thickened patch not as large as a silver quarter. In one case of gallstone trouble the occult blood revealed the presence of the concomitant gastric cancer. A negative response to the guaiac test renders malignant disease in stomach or bowel extremely improbable, he declares. When a gastric ulcer is developing cancer, the regular presence of occult blood gives the clue to what is going on. Even when the stomach is opened up, it is not always possible to distinguish between simple ulcer and cancer. He advises applying the guaiac test at intervals even with certain ulcer, as thus any tendency to cancerous degeneration would be promptly recognized. He examined the stomach content for occult blood in 261 cases, aside from his ulcer patients. The findings

were constantly negative except in 10 cases. In 6 of these the response was positive only at the first application of the test and the diet was responsible for it in some of these. No explanation for the positive response could be found in the 4 others, out of the total 261 tested. —From *Münchener medizinische Wochenschrift*, Munich, February 29, LXIII, No. 9.

C. H. B.

TUBERCULIN THERAPEUTICALLY CONSIDERED

Tuberculin is widely used in the treatment of tuberculosis and is generally recognized as a valuable resource, though not a cure.

A great many kinds of tuberculin have been used. At present the kind most used is the tuberculin as originally made by Koch and known as old tuberculin or O. T. It seems to me to afford most of the advantages claimed for other forms without some of their disadvantages. O. T. is a five to six weeks old culture of human tubercle bacilli on 5 per cent glycerine bouillon, which has been sterilized and evaporated over steam to 1-10 its original volume and then filtered through a Chamberland filter. It contains no bacilli, either living or dead, and therefore cannot transmit tuberculosis.

This O. T. is prepared for administration by repeated 10 percent dilutions with normal salt solution containing ¼ to ½ percent carbolic acid as described last month under the diagnostic uses of tuberculin.

The beginning dose for an adult case of pulmonary tuberculosis should be 1-10,000,000 of a cubic centimeter O. T. if the Von Pisquet skin test gives a quick strong reaction or 1-1,000,000 c. c. if the reaction is not very strong. While dosage cannot be regulated by the skin test, I think the first dose may be fixed as above with considerable advantage, as the test does give us a rough idea of the degree of sensitiveness to tuberculin.

One c. c. of the fifth dilution (not counting the original O. T.) contains 1,100,000 c. c. of O. T. and 1-10 c. c. of it contains 1-1,000,000 c. c. We therefore take as the initial dose 1-10 c. c. of the fifth or the sixth dilution according to the sensitiveness of the patient. The dose is increased very gradually so as to avoid reactions if possible. Various scales are used. I think the best for general use are those devised by Brown & Pope. These scales divide one c. c. into 2 to 12 doses as desired and make the proportionate increase from dose to dose the same throughout. Thus a commonly used scale makes the following divisions —0.10 c. c., 0.15 c. c., 0.22 c. c., 0.33 c. c., 0.47 c. c., 0.68 c. c., 1.00 c. c. When we reach the dose of 1.00 c. c. of any dilution we give instead 1-10 c. c. of the next stronger dilution and make the same increases through that dilution. This gives us a smaller bulk and is more comfortable for the patient, while the dose is the same, as 1-10 c. c. of one dilution equals 1.00 c. c. of the next lower dilution.

The final dose for any case is the largest amount he can take without reaction and may vary from 1-1,000 c. c. or even less to 1 c. c. of pure O. T. This latter dose is rarely if ever exceeded even if it produces no reaction.

The injections are given twice a week, at first, later as larger doses are reached, 1-100 c. c. for instance, an interval of one week is better in many cases.

Injections are best made during the early forenoon or late evening so that a slight transient reaction may not be missed during the night.

The interscapular region of the back is the best place to inject the tuberculin. If necessary the upper arm near the insertion of the deltoid may be used. Owing to the very much greater sensitiveness of the skin of the forearm to the Von Pirquet reaction, this region is unsuitable for the therapeutic use of tuberculin. Injection should be made first on one side or arm then on the other.

Fresh dilutions should be made at least once in two weeks; once a week is better. They should be kept in a cool place.

Dilutions should always be made up by the same person and with the same measuring utensils to insure uniform strength as far as possible. If dilutions are made only once in two weeks the first dose of each new mixture should be one notch less on the scale than the last dose of the old mixture. Whenever a new bottle of O. T. is opened the dose should be reduced three or four notches on the scale

especially if the laboratory number on the O. T. bottle is not the same. If dilutions are not made by the same person the dose should be further reduced. Tuberculin is a very violent poison and much injury may be done by severe reactions, consequently it must be administered with great care.

A. Randall Faichney Subt tuberculin syringe or a Record tuberculin syringe may be used. Each holds one c. c. and is graduated in fiftieths of a c. c.

The aim in giving tuberculin should be to keep as nearly as possible up to the dose which will produce a very slight reaction and yet not produce a reaction or at most only a reaction that will pass almost without notice.

A reaction is local with redness and swelling at the point of injection; focal with increased rales over diseased lung or increased signs of inflammation at a bony or glandular focus, or general with signs of increased toxemia.

These signs are: rise of temperature even if only 1-5 or 2-5 of a degree above the previous daily maximum, malaise, a feeling of very slight general depression, headache, pains in the back and limbs, disturbed appetite and digestion and increased cough and sputum. The latter pertains also to a focal reaction but are observed at times when no change in physical signs can be detected.

A local skin reaction without fever, or a slight rise of temperature not over 2-5 of a degree, or a mere feeling of general depression, often marks a slight reaction and any one of these conditions should be so interpreted and the following dose reduced a little. Otherwise severe reactions are likely to occur. As the skin reaction is important the tuberculin must be injected just under the skin with the point of the needle turned toward the skin. Never inject into the muscles.

If a well marked general reaction is produced, the treatment must be suspended until fever and all other signs of reaction have disappeared. Treatment is then begun again but with a very much smaller dose. If the reaction was marked, we go back one or two dilutions and gradually work up again.

Sometimes a small dose will produce a reaction every time it is reached. Usually we can overcome this hypersensitiveness by approaching the reaction point very gradually. If we cannot succeed in this, the treatment must be discontinued for some weeks and then tried again.

A course of tuberculin treatment should continue over a period of six months to a year. When the maximum dose for a patient has been reached, we may contiue for a considerable time with a dose just short of the maximum, or if treatment has already been prolonged we may stop treatment for several months and then begin again, using, of course, a very small beginning dose, 1-1,000,000 c. c. of O. T. Some cases of chronic incurable tuberculosis may take tuberculin almost indefinitely and will be better able to work with it than without it.

There is always a possibility of a reaction with considerable fever and at such times the patient *must remain in bed* until the fever is gone. Therefore tuberculin should never be given to a patient whose circumstances render such rest in bed impossible.

In using tuberculin at one's office or at a dispensary we must carefully consider whether the patient's trip for his tuberculin and his return home will do him more harm than the tuberculin will do him good. Many patients can come to the office without harm; others should only be treated at home.

Statistics show that tubercle bacilli disappear from the sputum of a larger percentage of patients taking tuberculin than of patients not taking tuberculin. There is also a smaller percentage of cases that relapse and a larger percentage of cases that are able to resume work among those taking tuberculin than among those not taking it, other things being equal. These results, however, are obtained only when the regular hygienic dietetic treatment is also followed. Tuberculin is not a substitute for it but an adjunct to it.

It is claimed that serious complication are less frequent in sanatoria using tuberculin on all cases than in sanatoria where it is not used.

We are, therefore, justified in saying that tuberculin does add to the chances of satisfactory results in cases taking it, although it may not produce visible results in an individual case.

Its use is safe if reactions are avoided and if slight or uncertain reactions are accepted as warnings to reduce the dose. Repeated reactions in close succession may and often do prove very disastrous.

The wisdom of giving tuberculin to patients that have persistent high pulse and fever above

100 in spite of absolute rest in bed, is questionable. The fever makes it difficult to recognize very slight reactions and thus avoid violent ones that might be harmful. Besides that the prognosis in such cases is not good with or without tuberculin.

It has been claimed by some that tuberculin will reduce such fevers but most workers secure such results only in rare instances.

Patients that are very much weakened or patients with serious complications are not good cases for tuberculin.

Tuberculin shows the best immediate results in chronic cases which fail to respond to other treatment and in cases that have improved up to a certain point and have then remained stationary. Such cases are most often moderately advanced but may be incipient or far advanced.

Tuberculin is very helpful in laryngeal tuberculosis, and in tuberculosis of the glands and bones. Especial care must be taken to prevent severe reactions in laryngeal and glandular cases as swelling in the larynx or swelling of lymphatic glands along the trachea of bronchi may lead to serious conditions.

Good results have been reported from the use of tuberculin in tuberculous peritonitis and in tuberculous kidneys. The latter condition is, however, better treated by removal of the diseased kidney if the other is sound and other conditions permit operation. If both kidneys are involved tuberculin may be tried.

The evidence of benefit in pulmonary cases consists of lessened cough and sputum; lower temperature, if slight fever, 99½, is present; fewer tubercle bacilli in the sputum, though there may be relatively more at first; less general toxemia, shown by better appetite and digestion with a gain in weight, by slower pulse, lessened muscular and joint pains, and improved blood picture.

A little record book covering temperature, pulse and symptoms is published by the Journal of the Outdoor Life. The use of this record book, with its daily entries of exact information, adds considerably to the accuracy of the patient's record, on which doseage must be based, and therefore greatly aids the physician.

The use of tuberculin keeps the patient in touch with the physician better than almost anything else and is for this reason alone, of no small benefit. It may be used in almost any case of tuberculosis, if proper care is taken, and should be used in a large proportion of cases.

H. S. G.

WHERE VERMONT COMES IN

In the fall of 1913 the Council on Health and Public Instruction of the American Medical Association decided to make a comprehensive study of the activities, equipment and accomplishments of the various State Boards of Health. Dr. Charles V. Chapin, Superintendent of Health of Providence, R. I., was selected for the task and during the year 1914 and part of 1915 every State Board of Health in the country was personally visited by Dr. Chapin. The report of this investigation has recently been published by the Council, comprising a book of more than 200 pages in which every subject relating to State Board of Health work is dealt with in detail. Under the head of "State Summaries," Dr. Chapin says in regard to Vermont:

"Vermont is to be numbered among the more progressive states as regards public sanitation. The department of health has been free from politics, and the board itself has been composed of men of high character and professional standing and greatly interested in public health.

"Vital statistics have been well collected for many years.

"The department has felt that the most essential thing was to improve the local health service, and to this end secured a law by which all the local health officers are appointed by the State Board of Health. Though appointed by the state, they are paid by the towns. The next step was the training of the health officers, which is attempted by means of an annual "school," the cost of which is borne by the state. The local health officers, as a result, seem to be superior to those of the other New England states.

"The diagnostic laboratory does most excellent work.

"The only antitoxin distributed is that for diphtheria, but the low death rate from this disease indicates that it is made good use of.

"A good deal of educational work has been

done with exhibits, lectures, and "movies," particularly in connection with tuberculosis. There is no sanatorium and, though the state appropriates a small amount for the care of advanced cases, not much is accomplished.

"There has been no very systematic control of water supplies, but in many ways the department has been able to bring about improvement, so that the supplies are in pretty good condition, as indicated by the fairly low typhoid death rate, but continued supervision will be necessary.

"The department does excellent work in the prevention of food adulteration, including milk. The chemical laboratory is well conducted and, besides the usual food and water work, makes medicolegal analyses and tests liquors and paints.

"The department also exercises an effective control over the sanitation of school houses and other public buildings, and has done much to improve the condition of the former throughout the state. The dean of the engineering department of the university gives a good part of his services to the health department, advising as to public buildings, as well as to water and sewage problems.

"Recently the department has been given $25,000 from private sources for the prevention of poliomyelitis and its sequelae.

"The activities now carried on by the department need to be extended and additional appropriations will be required.

"A better control of contagious diseases is needed, and a full time epidemiologist should be added to the staff. Besides diphtheria antitoxin, other sera and vaccines should be distributed.

"Educational work should be increased and will require the whole time of a capable man.

"The department also needs a full time engineer and a modern water and sewage law should be enacted."

The rating sheet or score card is one of the most significant and valuable features of the whole report. It attempts to score merely the functions actually performed, and not of course the intangible quality of the performance. There will no doubt be dissent from some of the ratings given, but on the whole the reviewer believes that they very fairly represent the general condition of state public health work in 1915.

In the total score, Massachusetts leads with 745, out of a possible 1,000; New York comes next with 730, and Pennsylvania third with 716. Then there is a drop to a group of nine states — Minnesota (574); New Jersey (555), Indiana (526), Maryland (507), Kansas (499), Vermont (486), Ohio (462), Rhode Island (432), and North Carolina (411) whose scores lie between 600 and 400, Virginia being just below at 397. Nine state — California, Connecticut, Illinois, Kentucky, Louisiana, Michigan, New Hampshire, Virginia, and Wisconsin — fall between 300 and 400; seven states — Florida, Iowa, Maine, Mississippi, Montana, Oregon, and Washington — between 200 and 300; thirteen states — Alabama, California, Delaware, Georgia, Idaho, Missouri, North Dakota, South Carolina, South Dakota, Tennessee, Texas, Utah, and West Virginia — between 100 and 200; and seven states — Arizona, Arkansas, Nebraska, Nevada, New Mexico, Oklahoma, and Wyoming — score less than 100.

C. F. D.

PATHOLOGY AND BACTERIOLOGY

A very worthy article appears in the current issue of Surgery, Gynecology and Obstetrics by Cubbins and Abt reporting their conclusions from experiments made to determine the effect of foreign substances in the peritoneal cavity. They say that they were stimulated to undertake this study by the variety of substances advocated as of use in preventing peritoneal adhesions following operative manipulation or acute inflammation of the peritoneum. Their conclusions are particularly significant, especially as to the use of the first substance employed—the half strength of official tincture of iodine.

They ask three questions of each one of their foreign substances, which include, besides the half strength iodine, "sulphuric ether of the type used for anaesthesia, commercial vaseline, liquid abolene, white vaseline, Russian mineral oil, olive oil, almond oil, lanolin." The three principal questions are:

1. "Did it traumatize the peritoneum?
2. Did it inhibit the action of pathogenic bacteria in the peritoneal cavity?
3. Would adhesions be caused by its use?

"Dogs averaging 20 pounds in weight were used in making these experiments. The animals were given one ounce each of the 3½ per cent tincture of iodine. They lived about eighteen hours, and at the post-mortem there was demonstrated a reddened granular peritoneum with 4 to 6 ounces of a brownish red fluid in the cavity. With each succeeding paid of dogs, two drams less of the mixture were used, and it was uniformly fatal until we used four drams of the mixture." "In addition to these experiments, 4 drams of the 3½ per cent tincture of iodine were mixed with 1 dram of pus (of fatal virulence) and allowed to stand for thirty minutes. It was then placed in the abdominal cavity of a dog. These animals died in 16 to 24 hours of diffuse general peritonitis. The iodine seemed to aid and abet the bacteria instead of inhibiting their growth."

They find that "it is very easy to determine by very delicate applications of the half strength tincture of iodine that it destroys the endothelium immediately and in conjunction with a moderate amount of trauma results in diffuse fibrous adhesions." This statement is particularly pertinent to the free use of iodine as a skin disinfectant before opening the abdominal cavity. It emphasizes the necessity of carefully protecting the intestines from coming in contact with any portion of the skin so disinfected, and demonstrates that the use of a loose abdominal sheet over the operative area is not sufficient. Their conclusions for iodine are as follows: "Iodine is an intense irritant to the peritoneum and favors rather than inhibits bacterial action. It will produce firm fibrous adhesions, either with or without any manipulation of the peritoneum."

Their findings as to the presence of sulphuric ether in the peritoneal cavity are that "we cannot see the value of the use of ether in the peritoneal cavity and it is our candid opinion that individuals in whom it is used will recover in spite of it and not because of it."

They make the following deductions from their experiments with ordinary yellow commercial vaseline: that "vaseline is an intense irritant to the normal peritoneum of a dog, and that it is absorbed very slowly, if at all." In two cases in the human in which it was used as an emollient they found by reoperation that "the walling off of the vaseline in the belly of these two humans was just as firm as if it had been around an abscess." They further state that "white vaseline, alboline and lanolin all seemed to have a very similar irritating effect."

The next group of experiments was conducted with Russian mineral oil and their findings were that "parrafin oil is relatively non-absorbable and that it will not prevent adhesions, although it is far less irritating to the peritoneum than vaseline."

In contrast to these findings are their results with olive oil. They demonstrate that "olive oil seems to have very little, if any, irritating effect on the peritoneal cavity, and that it has little if any value in preventing adhesions."

Strauss in a similar article dealing with experiments conducted to determine the usefulness of sodium citrate in the abdominal cavity concludes by saying: " I might summarize my impressions of the value of sodium citrate in dogs as follows: Sodium citrate solution is of little value, if of any at all, in preventing the primary formation of adhesions, and may interfere somewhat with wound healing."

These experiments caution against two things: the use of these, and similar, substances as emollients for the prevention of peritoneal adhesions, and of the necessity for securing complete protection between iodized skin and bowel endothelium.

C. F. B.

DO YOU KNOW THAT

There is no Federal institution in the continental United States for the reception and care of lepers?

Plague is a disease of rodents?

Malaria is spread by a special mosquito?

House screening is a good disease preventive?

Fingers, flies and food spread typhoid fever?

Pellagra may be prevented or cured by proper diet?

The United States Public Health Service believes that the common towel spreads trachoma, a disease of the eyes?

Children from sanitary homes advance more rapidly in school than those from dirty premises?

SIXTY-SEVENTH ANNUAL SESSION OF THE A. M. A.

Vermont doctors will do well to keep the dates June 12th to 16th open to attend the 67th Annual Session of the American Medical Association at Detroit.

Every effort is being made to have this the best session ever held.

Detroit, with its plentiful supply of first class hotels to accommodate all those who attend and its beautiful parks and well paved and lighted streets and its magnificent public buildings, is an ideal convention city.

Its automobile manufactories, however, have given to it the title of "Detroit the Dynamic." There are in Detroit now 34 automobile factories, employing approximately 100,000 people and turning out over 500,000 cars a year.

The *Journal of the A. M. A.* on page 1515 of the March 6th issue gives a preliminary program of great attractiveness. The program of the scientific assemblies of the 15 sections abound with numbers that cannot fail to draw a record-breaking attendance.

Various non-affiliating national organizations are holding their sessions at such times as will permit attendance at their meetings and those of the A. M. A.

The scientific exhibits wil be of especial interest this year and will be principally research exhibits.

The commercial exhibit will be held in Detroit Armory and will be of great educational value as it brings to the attending fellows, the very last word in medical, surgical, electric and diagnostic apparatus and material.

If a sufficient number make reservations an extra car will be attached to the train leaving Burlington at 11:55 A. M. Sunday, June 11th, over the Rutland Railroad, the so-called flyer, and will join the New York A. M. A. special making the trip direct without change of cars.

This train will arrive in Detroit at 7:10 A. M. Monday, the 12th.

Arrangements may also be made for a return through car.

Many Vermont men attend the A. M. A. meeting but are not in the habit of going together.

If all those interested in the trip will write the Secretary, arrangements for an enjoyable trip can be made.

The ladies as always are "expected."

For prices, etc., see back cover advertisement.

THE AMERICAN MEDICAL GOLFING ASSOCIATION

In accordance with preliminary announcement made in the A. M. A. Journal previous to the last A. M. A. convention, the American Medical Golfing Association held its first tournament in San Francisco, June 21, 1915. Arrangements were then made for the organization and that is now complete with the following directors:

President—Wendell C. Phillips, New York.
Vice-President—James Eaves, San Francisco.
Secretary-Treasurer—Will Walter, Chicago.

Plans are now being made for the second tournament to be held in Detroit at the forthcoming A. M. A. convention in June.

All fellows of the A. M. A who play the game are eligible and may obtain the desired information from the Secretary-Treasurer, Dr Will Walter, 122 S. Michigan Boulevard, Chicago.

Members of the British Medical Association have a similar organization for play at their annual meetings, and it is thought that this will add materially to the social interest of the A. M. A. as it has to the B. M. A conventions.

In Memoriam

DR. CHARLES WILLIAM PECK.

Dr. Charles William Peck, for over 40 years a medical practitioner, of the old school, in Brandon, died at his home on April 21, 1916, of cerebral hemorrhage after an illness of about one and one-half years.

He was born in Clarendon, Vt., Feb'y 23rd, 1841, son of Lewis and Harriet (Brown) Peck. Educated at Fairfax and Barre Academies, graduated in medicine from Long Island Medical Hospital in 1866; beginning the practice of medicine in Brandon in 1866, in the office of the late Dr. A. L. Woodward. In 1866 married May F. Jackson of Brandon, who died in 1895; in 1901 married Mrs. Helen R. McLeod of Fairhaven, Mass., who survives him. He was chairman of the local board of health since the law creating the office was enacted until March 1st, 1915, when his failing health compelled him to resign.

Ex-president of the Rutland County Medical and Surgical Society; president of the Vt. State Medical Society in 1909; member of N. Y. and New England Association of Railroad Surgeons; a Fellow of the American Medical Association; member of the American Health Association; represented the town of Brandon in the Legislature of 1902.

He served in the Civil War, enlisting at Rutland in Borden's Sharpshooters, Sept. 14, 1861, received gunshot wound below the knee at Yorktown, April 5, 1862, returned home on furlough for a time but returned to the front just after the battle of Antietam, remaining until after the battle of Falmouth, when he was discharged from service because of troublesome wound of leg which refused to heal.

A member of C. J. Ormsbee Post, G. A. R., a member of St. Paul's Lodge, No. 25, F. and A. M.

The funeral services were conducted by the Masonic Order from the house on April 24, 1916. C. J. Ormsbee Post attended in a body.

Dr. Peck was a man of high character, stirling integrity, a citizen having the love and respect of all; a man standing high in his profession and one that always had the welfare of his town and state at heart; to those of us that knew him, his jovial good nature and ready wit, forceful and well supplied with humorous anecdotes will be sadly missed at our gatherings.

—*J. W. Estabrook.*

Book Review

Bainbridge's Book on the Cancer Problem is a review of the various theories that have been held as to the causation of this disease and a resumé of the various methods that have been employed to eradicate it. The author acknowledges that the cause of cancer is as yet unrecognized and that the only effective treatment is early removal with the knife. All that has been written on this subject is here recapitulated, and all that has been done is here recorded. The student will find in Bainbridge's book all that can interest him in the past history of cancer.

'With regard to the campaign of education concerning cancer, now being inaugurated in this country, Bainbridge insists that such a campaign must be made to apply first to the general body of the medical profession and through them to the public at large. Under

modern conditions an operation is a fairly safe procedure, and its risk is as nothing when compared with the certain result of neglect,—and the use of inadequate measures is a form of neglect.' The author's words in closing are of value, and though not new, will bear repetition.

"While it cannot be gainsaid that the cancer problem is still fraught with perplexity and uncertainty, one indisputable fact stands out in bold relief, serving both as guidepost and danger signal for the present and future. If cancer cells be cut out soon enough, a permanent cure is effected."

"The Cancer Problem," by William Seaman Bainbridge, A.M., Sc.D., M.D., New York. The McMillan Company. 8vo. 534 pp.

Propaganda for Reform

Diarsenol.—Dr. E. H. Martin, Hot Springs, Ark., reports that, after giving several hundred doses of diarsenol without any bad effects whatever, he had two cases in which nausea, vomiting and symptoms of apparent collapse such as have been previously reported by another writer. He found on investigation that the specimens which in his hands gave untoward results as well as those previously reported on and two further accidents were all due to a product bearing the same lot number (*Jour. A. M. A.*, April 8, 1916, p. 1155).

Prescribing of Narcotics.—The Harrison Antinarcotic law exempts from its operations ready-made mixtures containing specified small quantities of narcotics, but requires physicians' prescriptions containing small amounts of narcotics to be registered. The law should be made consistent by requiring the registration of all prescriptions containing narcotics in any amount. The inconsistency in the law should be removed by prohibiting absolutely the sale, except on a physician's prescription, of preparations containing narcotics in any proportion. The contiued uses of small doses of a narcotic drug is just as capable of establishing the habit as is the use of larger doses (*Jour. A. M. A.*, April 8, 1916, p. 1156.)

Piperazin, Lysidin, Lithium Carbonate, Sodium Bicarbonate and Sodium Citrate as Uric Acid Solvents.—H. D. Haskins has studied the uric acid solvent power of urine of persons taking the various substances classes as uric acid solvents. The investigations lead to the following conclusions: 1. Piperazin can cause the urine to dissolve more uric acid than it would without the drug, and this effect is most marked if sodium citrate or bicarbonate be also given and if diuresis be avoided. 2. Lysidin can act as a uric acid solvent but is not a practical therapeutic agent because of the large doses required. 3. Lithium carbonate is a uric acid solvent if large enough doses are used, but is unsafe and possesses no advantage over sodium citrate or bicarbonate. 4. Sodium citrate and bicarbonate are reliable and satisfactory uric acid dissolving agents when given in such dosage as to keep the urine alkaline (*The Archives of Internal Medicine*, March 15, 1916, p. 405).

Emetic Action of Strophanthus not due to Oil.—Hatcher and Eggleston have shown that the digitalis bodies produce nausea and vomiting through action of the medulla and that the direct action on the mucous membrane of the stomach is unimportant. They demonstrated that the fixed oil (fat) of digitalis produced no action and conclude therefore that attempts to avoid the emetic action of digitalis by removal of oil from digitalis preparations is of no avail. Similarly Hatcher has recently determined that the oil contained in strophanthus is not the cause of the nausea sometimes produced by this drug. While removal of the oil renders tincture of strophanthus more "elegant" pharmaceutically, such removal is of no therapeutic importance (*Jour. A. M. A.*, April 15, 1916, p. 1199).

A Much Needed Pharmacologic Investigation.—J. D. Pilcher, University of Nebraska College of Medicine, has investigated the action on the uterus of the guinea pig of a number of drugs which are widely used as ingredients of proprietary "female remedies," and which so far have been little, or not at all, studied. Blue cohosh (Caulophyllum thalictroides) showed a variable tonic effect. Pulsatilla (Anemone pulsatilla or Pulsatilla pratensis), unicorn root (Aletris farinosa), figwort (Scrophularia marylandica), valerian (Valeriana officinalis) and skullcap (Scutellaria lateriflora) were more or less depressant. The following drugs gave negative results: cramp bark (Viburnum opulus), black haw (Viburnum prunifolium), swamp maple (Acer spicatum), false unicorn

(Chamaelirium luteum or Helonias dioica) liferoot (Senecio aureus), wild yam (dioscorea villosa), motherwort (Leonurus cardiaca), passion flower (Passiflora incarnata) and squaw vine (Mitchella repens). It is to be hoped that Pilcher's work will permit the formation of an opinion as to the therapeutic value of those drugs in which some degree of activity has been found (*Jour A. M. A.*, April 15, 1916. p. 1205).

Why Glycerophosphates?—The glycerophosphates are split up in the intestines into ordinary phosphates and absorbed and utilized, if they are utilized at all. There is no evidence that glycerophosphates have any pharmacologic action to warrant the belief that they are of use as therapeutic agents. The belief in their value is kept alive by the promotion of certain proprietary mixtures. The glycerophosphates will be continued to be manufactured until physicians refuse to prescribe them. A manufacturer has even substituted glycerophosphates for the potent yellow phosphorus in his elixir of phosphorus, nux vomica and damiana and, so his chemist reports, physicians continue to prescribe the proprietary the composition of which has been altered (*Jour. A. M. A.*, April 1, 59116, p. 1205).

Elixir Calcylates Compound.—Each dessertspoonful of this specialty is said to contain the "equivalent of" Calcylates (calcium and strontium di-salicylate) 5 grains, resin of guaiac ½ grain, powdered digitais leaves ¼ grain, powdered squill ¼ grain, extract of colchium seed ¼ grain, cascarin 1-16 grain, aromatics. One or two dessertspoonfuls are to be taken 3 to 4 times a day. The mixture is to be given in cases of "rheumatism, lumbago, neuralgia, sciatica, etc." If a salicylate is indicated it should be given in sufficient amount in the form of sodium salicylate; the patient should not be given a preparation containing ingredients in the way of guaiac, squill and colchium which are not needed. Digitalis is rarely indicated in inflammatory rheumatism and it should never be given in a multiple mixture (*Jour. A. M. A.*, April 22, 1916, p. 1307).

Emetin Hydrochlorid Variable.—It should not be taken for granted that because a drug bears the name of a definite compound it is true to name and pure, and therefore trustworthy in its action. This fact has recently been demonstrated in regard to emetin hydrochlorid. Two cases in which the administration of emetin hydrochlorid produced symptoms of poisoning (one terminating fatally) at the Johns Hopkins Medical Clinic led to an investigation by R. L. Levy and L. G. Rowntree, in which the emetin hydrochlorid preparations of five pharmaceutical houses were used. This investigation led to the conclusion that the products supplied as emetin hydrochlorid are variable in composition and in toxicity to a degree which constitutes a serious danger. It behooves physicians to insist on some declaration from the firm supplying emetin hydrochlorid as to its purity and as to the standard employed. Levy and Rowntree emphasize also the fact that emetin hydrochlorid medication itself is not an innocuous procedure. To avoid the toxic effects of emetin, the dosage should be carefully adjusted for each individual and the treatment should be given in courses at intervals of several days or a week. The subcutaneous method of administration is to be preferred (*The Archives of Internal Medicine*, March 15, 1916, p. 420).

Cactus Compound Pills.—A pharmaceutical firm makes Pills Cactus Compound (Heart Tonic) each of which is said to contain "Cactus grandiflorus ½ gr., Sparteine sulphate 1-40 gr., Digitalin, pure (German) 1-125 gr., Strychnine sulphate 1-500 gr., Glonoin (nitroglycerin) 1-500 gr., Strophanthin 1-5000 gr." The combination is irrational and the dosage of the individual drugs, in most instances, absurdly small. Every one of the ingredients except digitalin may be disregarded either because of inertness or because of the small amount present, and the treatment then becomes one of digitalis. The selling name of "Cactus Compound" is a misnomer as the activity of the pill is that of the small dose of the digitalis glucoside. The pill is an illustration of how worthess drugs are perpetuated. At one time it was thought that cactus had therapeutic value. During that time many "specialties" and proprietaries bearing its name were put on the market. Although the drug is now known to be worthless, these specialties continue to be sold (*Jour A. M. A.*, April 29, 1916, p. 1387).

NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-Official Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-Official Remedies":

Styracol Tablets, 5 grains.—Each tablet contains 5 grains styracol. Merck and Co., New York.

Tannalbin Tablets, 5 grains.—Each tablet contains 5 grains tannalbin. Merck and Co., New York.

Stanolind Liquid Paraffin.—A non-proprietary brand of liquid petrolatum, complying with the standards of the U. S. P., 8th ed., and made from American petroleum. Standard Oil Company of Indiana, Chicago (*Jour. A. M. A.,* April 1, 1916, p. 1027).

Mead Johnson and Co.:—Mead's Dry Malt Soup Stock.

LITTLE DAMAGE TO THE ABBOTT LABORATORIES

A small fire with explosion of gases occurred April 21st on the top floor of one of the buildings of The Abbott Laboratories. Newspaper reports of the extent and character of this accident were grossly exaggerated. The damage was very small, consisting mainly of broken window panes and cracking of temporary partitions. The plant and machinery were injured but slightly, and the entire force went to work the next morning as usual. The Abbott Laboratories have issued a statement positively denying the newspaper reports that this firm is or has been engaged in the manufacture of ammunition or explosives.

News Notes

* * *

Dr. J. M. Allen of St. Johnsbury has returned from Rochester, Minn., where he spent three weeks in clinical work with the Mayo Brothers.

* * *

Dr. R. T. Johnson of Concord recently underwent a successful operation on his eyes at the Eye and Ear Infirmary at Portland, Me.

Dr. H. A. Whitney of Northfield was operated on successfully at the Mary Fletcher Hospital in Burlington recently.

Dr. and Mrs. H. R. Watkins have returned to their home in Burlington from Tampa and Winter Park, Fla., where they spent the winter.

Dr. and Mrs. Wendell H. Paige have left Ludlow. where Dr. Paige was engaged in practice, for Texas where they will reside in the future.

Dr. and Mrs. D. C. Hawley of Burlington have returned home from Daytona, Fla., where they have been passing six weeks.

* * *

Dr. Corbin L. Sanderson died at his home in Milton, March 31st, 1916, of angina pectoris.

He was born in Milton 65 years ago, graduated from the College of Medicine in 1877 and practiced in Milton, his birth place, until his death.

* * *

News has just come of the sudden death of Dr. John Gibson of St. Albans, May , . Dr. Gibson was born in Scotland July 6, 1868, and came to this country when a lad. He graduated from the College of Medicine of the University of Vermont in 1898, and was at one time Adjunct Professor of Materia Medica in his Alma Mater. He was found dead in his bed by his wife. An obituary notice will appear in the June number.

* * *

Dr. John C. Morgan of Stowe is at the Fanny Allen Hospital suffering from an intracapsular fracture of the right femur received in a carriage accident.

* * *

Don't forget Dr. C. A. Porter of Boston who will be at Burlington in the V. S. M. S. Postgraduate Course, May 25th. Subject and hours to be announced.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 6 $1.00 per Annum

Rutland, Vermont, June, 1916.

Original Papers

SOME OBSERVATIONS ON THE RELATION OF DUCTLESS GLAND ACTIVITY TO HEALTH

J. H. Blodgett, M.D.,
Bellows Falls, Vt.

Read before The Annual Meeting of The Vermont State Medical Society, October 14-15, 1915.

We approach this subject from the standpoint of the general practitioner making no claim for original work other than the experience of twenty years in the study of medicine.

The country fields are often called upon to prove the findings of the laboratory and city clinic. It is the seething chaldron which separates gold and dross.

Medicine is defined as both a science and an art, and so far as our subject is concerned the art has preceded the science. We have done better than we knew.

We have reached a time when it seems possible to lay a scientific foundation for the intoxications, so called, to put our finger on some of the causes which give occasion to the bald-headed brow, (there prematurely and possibly unwisely), to the hard and dry skin, the wrinkles, the stoop, the tremor, the hardened and tortuous artery, the halting speech, the misty eye and the sluggish brain.

We have sought the world over and to the rainbow's end for the fountain of eternal youth, and lo, it was in our intestinal tract!

Seneca said, "Man does not die, he kills himself." What an added service medicine may yet render this troubled world of ours, if perchance it can point the way to simple and rational living, so that the arteries may be kept soft and pliable, carrying nutrition to every vital organ, and securing efficiency, longevity, health, and hence happiness as the goal of our endeavor.

Physiology

For the clearer understanding of our subject, we review the physiology of the digestive tract briefly. We recognize a normal activity of this series of connected organs so essential to life and health.

Of the various foods swallowed, some are already in solution ready to dialize at once into the lymphatics and blood vessels of the alimentary tract. Others must undergo change, either to convert insoluble bodies into soluble or non-diazable or both. The various secretions and ferments poured into the intestinal canal are under normal conditions sufficient to accomplish these results.

The action of the saliva is physical, mechanical and to some extent chemical. The ptyalin of the saliva partially converts starches into diazable substances

like glucose, dextrins and allied bodies. In this activity the ptyalin remains unchanged. Substances thus acting to produce chemical change without themselves being changed are known as ferments or enzymes. They are not living organisms but belong to the obscure chemical category of "contact actions." Vital processes are dependent upon these actions as yet but little understood.

The œsophagus and deglutition do not concern us from a chemical standpoint.

Gastric digestion converts the non-diazable proteids into peptones which are diazable through the combined action of free hydrochloric acid and the enzyme pepsin. The action goes on in an acid medium. In neutral or alkaline media the pepsin is inactive.

We recognize another ferment which has the power of coagulating the casein of milk, (rennet), and of converting it into peptone.

The double function of the stomach, where the cardiac end remains a reservoir while the pyloric end, with its wave motion, constitutes a mixer, is also noted.

The chyme at the end of two hours or more passes to the small intestine, where preparation has already been made for such portions as have not already dialized into the vessels of the stomach.

The pancreas, stimulated by reflex nerve action of stomach digestion, as also the liver, are pouring their secretions into the upper intestine. The glands of Brunner and the crypts of Lieberkuhn are also busy.

The chyme is converted into chyle. The upper intestine thus after an ordinary meal, contains mucus from the canal, phyalin from the saliva, pepsin from the stomach, and water partly swallowed and partly derived from intestinal secretions. The peculiar constituents of the bile and the ferments of the pancreas,—trypsin, amylopsin, steapsin and lab-ferment. Some undigested proteids and unchanged starches, oils from the fats eaten, peptones from the stomach, not yet absorbed, possibly some salines and sugars not yet dialized and indigestible substances of various sorts.

Surely, we are fearfully and wonderfully made.

The bile is important in that it removes from the body waste products of metabolism such as cholesterin, lecithin and bile pigments.

The bile acids represent end processes of metabolism involving the proteins of the liver. As a digestive secretion it takes part in the digestion and absorption of fats. It accelerates greatly the action of the pancreatic ferments and probably limits to some extent intestinal putrefaction.

The formation of glycogen and urea in the liver may be regarded as ductless gland activity. The pancreas through its ferments converts starches into sugars, dissolves proteids if necessary and converts them into peptones, emulsifies fats and to some extent breaks them up into glycerine and fatty acids, the latter being saponified by alkalies present.

It is with the proteids which have failed of digestion that we must look for the greatest harm to the body, and it is from these under given conditions that we develop those deadly toxins, putrescin and cadaverin. Many a case of ptomaine poisoning is developed within the intestinal tract when the protective forces of ductless gland secretion and control are temporarily impaired or lost.

Pathology of Digestion

We can but mention that mastication is well nigh a lost art. The ptyalin is of little use except to gum chewers. This holds good outside of Vermont also. That poor stomach is surprised at all times of day and night with a mass of stuff that would make a cannibal quail. Hot things, cold things, hurry, worry and exposure do the rest. The result is that there is forced on into the intestinal tract a mass of material that, if it were not for nature's wonderful protective forces as represented in ductless gland activity, the adage that, "Life is brief," would be changed to, "Life is but a living death."

Auto-intoxication of intestinal origin is either the result of toxic compounds developed from abnormal digestion, or from toxins produced by the action of certain bacteria. Both these factors may be complicated by faulty elimination, viz: constipation and urinary defects.

Prompt absorption in the small intestine prevents to a great extent putrefaction in the large intestine, where the products due to bacterial growth are chiefly formed and absorbed.

The bacteria normally found in the intestinal tract are, according to Clement A. Penrose, M.D.,

1. Bacillus lactis aërogenes, found chiefly above the ileo-cœcal valve and possessing great fermentative powers:

2. Bacillus coli communis, found chiefly below the valve and possessing great putrefactive power and the ability to inhibit the growth of other organisms, including itself; and

3. The bacillus bifidus, found in both small and large intestines and possessing little inhibitory power except over the anaërobic forms.

There are others of lesser importance.

The injurious bacilli most commonly infesting the gut are, pyogenic, stretococci and staphilococci, typhoid and para-typhoid germs, various dysenteric bacilli and the spore bearing anaërobics. All putrefactive bacteria grow best in alkaline or neutral media.

The large intestine contains little oxygen, hence this is the field for the more toxic germs to work. Bacteria accumulate greatly in the ileum within a foot of the colon, when a pathological state of the gut exists, and their activity on the undigested proteids earlier mentioned produces a series of compounds like iodol, skatol, phenol and cresol, also a number of very toxic substances like putrescin and cadaverin, all of which have an influence on the economy and some a most powerful one. A meat diet unquestionably increases the number of putrefactive bacteria and hence the degree of auto-intoxication.

The degree of auto-intoxication varies all the way from simple headache to the gravest anæmias, in the chronic forms; and to prostration and death in the graver ptomains. Hereditary tendency and susceptibility as to infection probably exist.

The mechanical side of this question has been seized upon by our alert surgical friends and under the heading of "Stasis" with due infection, they at last explain all our ills. They wade through a labyrinth of kinks, veils and membranes, twists, loops and ptoses make us everlastingly regret that we ever raised our face up to the Creator in whose image we are made. The large intestine is an error and must come out root and branch. When it's all over, we have more adhesions from surgery

than it relieved, and medicine, with a careful study of metabolism and ductless gland control, will have to solve the problem.

The Ductless Glands

Pituitary Body

The symptoms of disease of this organ are mainly of interest to the neurologist, as it is connected with the brain. It lies at the lower portion of the brain and is divided into an anterior and posterior lobe. Its connection and, to some extent, control over other ductless glands has been demonstrated.

Injection of the pituitary extract (posterior lobe secretions) raises blood pressure markedly. There is also stimulation of the renal epithelium giving rise to diuresis, also uterine, vesical and intestinal contractions, sometimes of a most powerful nature. There is at the same time a lowered carbo-hydrate assimilation.

The summary of the action of pituitary secretion by John W. Rheims of Philadelphia, shows that hyper-pituitarism produces wakefulness and excitability, irritability, certain abnormalities of growth known as gigantism and acromegaly, and finally hallucinations. Deficient posterior lobe secretion causes increased fat deposit generally.

Hypo-pituitarism is credited with producing drowsiness, convulsions, subnormal temperature with lowered blood pressure, frequent polyemia and polydepsia, adiposity, failure of development, the backward child, sexual infantilism in childhood, and sexual infantilism of the reverse type in adults.

The pituitary body itself may be the seat of disease, viz.: sarcoma, adenoma, epithelioma, gumma, tuberculosis, or simple hyperplasia. The symptoms are those of brain tumors, with exceptions.

The Thyroid Gland

The profound disturbances to the system which accompany disease of the thyroid are familiar to all. The symptoms of myxoedema, absence of the thyroid secretion, are essentially those of old age, and this striking similarity has led to the suggestion that if thyroid degeneration could be deferred, old age itself might also be.

Brevity demands that we consider not the diseases of the thyroid, but the vast importance of the thyroid and its secretion in the defense of the body against bacterial invasion and toxins both from within and from without the body.

Lorand states that when bacteria invade the body, the leucocytes attract them and eat them up—this is phagocytosis as first described by French. There are also special substances alexins (Buchner) which aid the leucocytes, and opsonins which first act upon the bacteria and prepare them for phagocytic action. To make the bacteria still more sensitive to the influence of the alexins, there are the agglutinins (Bordet, Gruber and Durham) which immobilize the bacilli and thus aid the leucocytes in their task. The leucocytes are formed in lymphatic tissue and in the spleen. These glands are able to convert poisonous germs and substances into comparatively harmless ones. There is a close relation between the lymphatic system and the thyroid. The opsonins are mainly composed of thyroid secretion. The production of anti-toxin in the body is then largely in control of the thyroid.

The various toxins developed in the intestinal tract, especially those formed by the putrefaction of the proteids, are held in check or destroyed by the secretion of the thyroids, para-thyroids and the liver. They are eliminated by the skin, kidneys and intestines. Lorand says "The thyroids protect us against poisons generally." The whole question of immunity then—our guarantee of life almost—rests with the thyroid and its secretion. How futile then this anatomic and mechanic conception of disease! What folly to think that a cut here and a stitch there will entirely solve abdominal conditions and their after-affects!

The Thymus Gland

This organ was earlier considered a temporary one whose function was exhausted in early life. Later study shows that the gland increases from five grms. at birth to an average of twenty-five grms. at puberty, and then gradually retrogrades until the age of sixty-five, and is then represented by a small mass of tissue in the anterior mediastinum known as Waldeyer's adipose body.

The thymus plays an important role in the metabolism of phosphorus, especially in relation to the central nervous system. Its inhibition retards the growth of bone and of other tissues. It is no longer believed that the thymus supplies a true internal secretion, but that the nucleins produced by the gland are the connecting links, stimulating to activity other tissues through the agency of the lymphocytes.

The nucleins are the dynamic initiators of all vital processes. The function of the thymus is to supply the excess of nucleins which particularly the osseous, nervous and genital systems require. This gland also takes part through the nucleins in the processes of oxidization and the immunization of the body. It is a useful gland throughout life, especially during the development period.

Abnormalities of this gland give us, according to Sajous, precocious senility or progeria—seventy years of age at eight years, with arterial sclerosis and all the phenomena of age. Sub-oxidation is a result of faulty ductless gland activity. Old age is failing oxidization—hence the important function of the thymus in development of vital parts. Infantile marasmus, with the wizened look of the child, finds its explanation here. Mal-nutrition, rickets, osteo-malacia, abnormalities in size and shape of cranium, malformation of ears, defective growth of nasal bones, vaulted palate, irregular dental arches, idiocy, imbecility and feeble-mindedness find their cause largely in the defective thymus.

One million backward children in America suggest the tremendous importance of this subject to our profession. Three hundred thousand babies lost in one year in this country, one hundred fifty thousand of whom could have been saved by maternal nursing, by having milk containing proper ductless-glands secretion from the mother—is our record.

The pancreas has been discussed in relation to digestion. We are concerned with it now as an organ for the metabolism of sugars. The Islands of Langerhans are scattered through it like the glomeruli of the kidney, and possess a rich network of vessels. The precise manner in which this transformation is accomplished is not yet a settled matter. The consequences of sugar saturation in

the economy, as found in diabetes, are familiar to all and need not be discussed.

The glycogenic function of the liver and the formation of urea in that organ entitles it to be classed with the ductless glands.

This important store-house of energy upon which we make first demands for the ongoing of the body needs further study before its full value can be fully stated.

The Adrenals

If we study amaurotic family idiocy, we get a conception of what may happen when the adrenals and their secretions are at fault. The infant of from five to ten months ceases to grow, physically and mentally, there is increasing weakness, blindness, a partial paralysis is suggested, finally periodical convulsions supervene, because the infant is overcome by toxins either from within or from without.

Sajous shows that one of the most important functions of the adrenals is their anti-toxic property. They have the power to destroy fatigue or muscle poisons and the severer toxins generated in the intestinal tracts, studied earlier in this paper. They also protect the body against blood poisons, and the inveterate alcoholic and smoker may thank his adrenals that he still lives.

While the thyroid secretions render the tissues inflammable in the process of oxizidation, it remains for the adrenals to complete the process. If life is oxidization, there could not be adequate life without the adrenals. Here again we have a ductless gland as a part of that great defensive power of the body. In impairment of the adrenal secretion—we note a sub-normal temperature, diminution of the nitrogen output, marked sensitiveness to cold, cold extremities, atony of the heart and blood vessels,—all adrenal stigmata; to these may be added atheroma and arterial sclerosis, with their train of symptoms.

The Spleen

The spleen as the head of the lymphatic system and the auto-defensive power of the blood, has been sufficiently covered in the discussion of the thyroid.

Lastly, the sex glands—the testis and the ovaries—claim our attention. The meaning of the testis to the male cannot be better illustrated than by calling your attention to the exhibitions at County and State Fairs, of the bulls that have led the many fine herds. Power, massiveness, courage, daring, initiative—all the fighting qualities have characterized these animals. They characterize men also whose sexual powers have been preserved. Mental calibre and moral worth are also attributes of the man whose vital powers have been preserved, and old age can come but slowly when ductless glands do not degenerate.

Contrast the meekness, the docility, the lack of initiative of the castrated animal; contrast also the eunuchs of old with their abnormally long legs and arms. Their hair is dry and brittle, their faces pale and of a yellowish hue. Their hands are cold and of a reddish blue. Often the skin of the face is like parchment and has many wrinkles, their intelligence is often diminished. They are secretive and full of deception. An apology for a man, in other words.

In the female devoid of sex glands at an early age, note the flat breasts and

hips, the irregularity of facial structure, the premature wrinkles. The jaws are prominent and the gums shrunken. There are marked changes in the hair. In the central nervous system, neurasthenia, hysteria, various gastric neuroses, insomnia, irritability and manias are noted. Atrophy of the cerebellum in both males and females has been noted in a series of autopsies, and this means disturbance of all the vital functions which this organ controls.

To summarize, using Sajous's words largely. General nutrition of the body is under ductless gland control, as is evidenced by the obesity of hyper-thyroidism, hypo-pituitarianism and hyper-adrenalism. The entire skeleton, vascular system and musculature are subject to the influence of the ductless glands, witness acromegaly and gigantism, both of pituitary origin.

Cretinism and Graves' disease illustrate the influence of the thyroid on the general organism, and particularly on the central nervous system. Addison's disease well illustrates the deterioration of the adrenals.

Eunuchism shows the far-reaching effects of the sex glands. The wrecks of surgery after complete hysterectomies show what these glands mean to woman. Faulty physical and mental development, feeble-mindedness, imbecility, idiocy, crime and insanity illustrate thymus failure.

Lowered vitality, struma, tuberculosis and general debility show a failure of the immunizing power of the blood as influenced by the ductless glands in the great protective processes of the body.

Gout, atheroma, glycosuria and uremia show the failure of the adrenals, especially in the anti-toxic functions of the body.

The future of medicine looms bright if we can get to know with exactness the causes which produce a certain result, and can also with exactness control the ductless glands responsible for the defect.

DISCUSSION ON DR. BLODGETT'S PAPER

The President:—I think this paper affords a good opportunity for the disciples of Mr. Lane to stand up and defend themselves.

Dr. H. C. Tinkham:—I am not a disciple of Dr. Lane. I never did but one operation for the removal of the large intestine to relieve a patient of intestinal toxemia, and that patient died. I do not know whether this patient is better off dead with the large intestine out, or would have been better off alive with the large intestine in. I do know that he was not happy while living. I do not know where he is now, or whether he is happy or not.

I do not wish to discuss this paper even in a general way. I know nothing about the ductless glands,—Dr. Blodgett has given us the impression that he does. As I know nothing of the ductless glands, and as I, unfortunately or otherwise, confine my practice to surgery, and as Dr. Blodgett has referred to surgery and surgical procedure in the way he has, I think it safer for me not to say anything in the discussion of this paper.

Dr. W. B. Cannon:—This paper covered such an extraordinarily extensive field that it is difficult to know just where to take up the points it made. There are one or two, however, that I think may be mentioned. As one who has done a great deal of work on the alimentary canal I have endeavored to ascertain what the effect an obstruction would have on the intestine. We folded the intestine on itself and sewed the loops together so that there would be a condition like this (illustrating on the blackboard). The kink here obviously made it difficult for the food to go around it. Now when there is an obstacle to the onward-going food there is a greatly increased activity, the peristaltic waves increase enormously, with almost an intelligent activity on the part of the gut, and what happens is that the tendency to

straighten the gut is so great that sutures are pulled out. It seems to me that a kink seen when the cavity is opened means nothing. The question to ask is whether a kink does any harm.

The same thing may be said with reference to the large intestine. The X-ray figures that were published when this method was first used showed not infrequently a big downward loop. It would seem as if some surgeons got their ideas of the way the intestines are arranged from the Farmer's Almanac—with the transverse colon straight across the abdomen. And they have an idea that the intestines *ought* to be arranged that way. The festoon or loop seems to them not proper. I have heard a great surgeon telling about operations he had done and, when asked why he removed a part of the colon, he said, "It ought not to drop down." I should like to insist on the function rather than the position of the structure. "Handsome is as handsome does," and the looped colon that *works* is just as good as the straight colon that also works. Just because there is a loop there is no reason to take out a large piece of the colon just to make it straight. I think that is being gradually recognized.

So far as ductless glands are concerned, I offer a word of warning. There has been a great deal of theorizing about ductless glands. What we know is very suggestive and interesting and often it seems possible to explain conditions that have baffled us for years. We say, "This is the relation here," and "That is a relation there," but as a matter of fact we are a long way from understanding the relations of these glands to the rest of the body and to one another. I think the safe thing to do is to wait patiently for the knowledge to be secured. Studies are going forward in many laboratories to ascertain the effect of these glands on the body. Naturally it is careful, painstaking work, and *slow*. I do not think until it is more nearly completed it is quite safe to build up complicated ideas on the theories we may have regarding the action of these interesting bodies.

Dr. P. E. McSweeney:—For the past two years I have been greatly interested in the thyroid gland and its diseases. During this time I have removed over 50 thyroids; some were of the true Graves disease, others of the cystic variety. The prominent symptoms in practically all the cases were: rapid heart, digestive disturbance, and excessive sweats.

These patients were kept under observation at the hospital for periods varying from two days to three weeks before the operation. In practically all of the cases the right side of the thyroid was enlarged and was removed. The recovery of the majority of these patients has been rapid. Usually they were sitting up at the end of the first week and in from two to four weeks returned to their homes. The rapidity of the heart was reduced from 140 to 90, and in some of the cases before the end of the first week the pulse would be between 70 and 80. There was an increase in weight ranging from 10 to 20 lbs. during the first year. Following these operations there were but two deaths, which might possibly have been avoided had the patients, whose pulse rates were 140, been kept under observation and treatment until they had been reduced to 100 or less. In the future I will not operate when the patient has a high pulse rate.

Doctor John B. Wheeler:—I am afraid I cannot discuss this paper properly because I was not here during the reading of some of it. The general impression I got was that because we have found out some things about ductless glands that we did not know years ago, and because there are several hundred things to find out yet, therefore surgery is not any good. I do not quite see the logic of that, but I presume I am not representing Dr. Blodgett quite correctly.

As for the work of Mr. Lane of London on the large intestine, that is something with which I have not had much experience except in malignant disease, for which I have done several rather extensive resections. I never could take unlimited stock in the ideas of Mr. Lane. It seems to me that some better method might be devised in intestinal stasis, than the elimination of a large part of the alimentary canal and that there are better means of dealing with fractures than by the Lane's plate. We have the bone graft instead of the Lane's plate, and, in any ordinary fracture, the use of our eyes, hands and common sense, aided by X-ray, will give results which are practically as good as can be obtained in any other way. Of course there are difficult and complicated cases which require operative treatment, but even in

these I prefer the bone graft to the Lane's plate.

As to the operations on the thyroid gland, there is a field for both medicine and surgery in cases of that kind, and I do not believe that every thyroid gland which is enlarged, should be removed. Nor do I believe that all ovaries that are tender or troublesome should be at once removed. I believe in taking all available means to preserve them, provided that our efforts are not continued so long as to produce a condition in which it is too late for a surgeon to operate. It seems to me that a case of exophthalmic goiter in which you get no relief from tremor, tachycardia and exophthalmos, after six weeks or two months careful medical treatment, is much better treated surgically than by tampering any longer with the administration of drugs and other medical methods. And it also seems to me that a woman of forty-five, with fibroid of the uterus from which she is bleeding to death, is a great deal better off without the uterus (time).

Dr. Blodgett, in closing—Dr. Cannon has cautioned us against placing too great reliance on the theories regarding ductless glands.

The object which I have in mind today is to caution against resorting to surgery as a last resort in all cases, because apparently there is a field which surgery does not reach and which it seems probable that the ductless glands may control.

Most of us are working among the hills as general practitioners and we are doing a whole lot, although often our work seems to amount to but little. As general practitioners, we are making diagnoses which involve a lot of work for seventy-five cents and some of our colleagues are realizing seventy-five dollars for what we have discovered.

Sajous has said that the present surgery on the ductless glands represents heroic measures drawn from loose conclusions which were based on insufficient data.

It has been shown that the appendix (once considered a rudimentary organ) is in all probability a lymphatic gland and hence serves a useful purpose, and should not be removed unless there is a well-defined cause.

I want to emphasize the fact that this appeal today is in behalf of the general practitioners of medicine who are still doing routine work for our people, which is of the greatest importance.

CHRONIC RHINITIS

W. G. RICKER, M.D.

St. Johnsbury, Vt.

Read before the Burlington and Chittenden County Clinical Society March 30, 1916.

A brief consideration of the embryological development of the nose is of considerable assistance in understanding its structure, and of some value in a diagnosis and treatment of the diseases of this organ. To review this briefly, I will mention two or three of the more important facts.

The old familiar example of the bunch of grapes, considering the stem and fruit to be filled with air, and remembering its growth from the primary stock from the vine, affords the mental picture of the development of all the air-containing organs, such as the lung and the mastoid, as well as the nose and its accessory sinuses.

The nasal mucous membrane is developed from the ectoderm, first appearing as the two olfactory plates, just

above the primitive oral cavity and in contact with the anterior wall of the fore-brain. The surrounding tissue heaps up around these plates, they in turn become more and more depressed until finally the depression meets with the upper end of the foregut formed of the endoderm at the anterior pharyngeal wall, converting the whole into one continuous passage. The heaping up of the mesodermal tissues and the folding of the ectoderm go to form the turbinates, and by a more complicated process of invagination, the cavities of the maxillary, frontal, anterior and posterior ethmoidal and sphenoidal sinuses.

The anterior wall of the forebrain pursuing its course of development becomes the olfactory nerve with its endings in the epithelial cells. In its later development, the epithelial cells of the olfactory and respiratory regions become differentiated from each other, with the characteristics which we will mention in a moment.

Everyone is familiar with a certain part of the gross anatomy of the nose, unfortunately that part of the anatomy which is of the least importance. We are all familiar with the fact that the septum divides the nose into two passages, and that projecting from the lateral wall of the nose are the superior, middle and inferior turbinate bodies, which serve to purify the air and remove particles of dirt, to moisten the air and to warm the air before it reaches the deep respiratory tract. To perform this function the lower turbinate is the most important.

But the deeper anatomy of the nose is equally important. On the lateral wall of the nose beneath the anterior end of the middle turbinate is the so-called hiatus semi-lunaris, bounded in front by the uncinate process and behind by the ethmoidal bulla, a grooved line in the lateral wall of the nose. In about half the cases the frontal sinus and the anterior group of ethmoidal cells empty into the hiatus, and in the other half of the cases into the middle meatus proper. The maxillary antrum empties into the middle meatus near the lower end of the hiatus. The posterior group of ethmoidal cells and the cavity of the sphenoid empty into the upper meatus, or the groove above the middle turbinate body.

This detail of anatomy is important, as the location in which pus is found serves to diagnose the location from which it arises, as we shall see later. The lachrymal duct empties into the lower meatus, a half inch or more behind the end of the inferior turbinate. The maxillary antrum is a cavity in the maxillary bone roughly cuboidal in shape, one-half to one inch in cross section, the floor of which is very close to, sometimes even penetrated with the root of the eye tooth, anteriorly, laterally and posteriorly bounded by the wall of the bone, on its superior surface bounded by the floor of the orbit, on the median surface by the wall of the nose, through which there is one opening before mentioned, the one into the middle meatus. Notice here that the outlet from the maxillary sinus is at a considerable distance above the level of the floor.

The frontal sinus is located between the inner and outer plate of the frontal bone above the orbit, extends laterally at a distance varying from a half inch to an inch and a half, upward at a distance varying up to an inch, and in depth to a space up to half an inch or more, irregularly pryamidal in shape,

its inner posterior portion draining through the infundibulum into the hiatus or meatus. These cavities are quite irregular in shape, they may cross the mid-line, one lying in front of the other, or may lie one above the other, and may extend backward so as to be separated by the thinnest of partitions or even by none at all, from one or more of the anterior cells. This cavity is bounded by the walls of the frontal bone, the most important surface being the under one, which is bounded by the roof of the orbit.

The ethmoid bone is of a honeycombed structure, containing cavities or cells of varying size, the largest ones posterior, opening into each other and into the nose, those located in the anterior portion of the ethmoid bone opening, as said before, in about one-half the cases, into the hiatus, and in the other half of the cases, directly into the meatus, while the cells of the posterior half open directly into the superior meatus. Back of this is a cavity of the sphenoid bone, roughly a half inch in cross section, rounded in outline, bounded by the body of the sphenoid bone, with its opening in the upper portion of its anterior wall directly into the superior meatus.

To review then, briefly, the nasal cavity communicates with five cavities on each side, the maxillary, the frontal, and the anterior group of ethmoid cavities draining beneath the middle turbinate bone, and the posterior group of ethmoid, and the spheniod opening into the nose above the middle turbinate.

The mucous membrane lining the nose is made up of two quite distinct types of structure. The olfactory portion covers the under surface of the lamina cribrosa, the superior turbinate, the septum down as far as the corresponding level, and extends downward more or less into the superior meatus, olfactory elements being found even as far down as the middle turbinate in scattered locations. The epithelium of this membrane is stratified columnar, mixed with the olfactory cells from the olfactory nerve, and rests upon a loose network of fibrous connective tissue mingled with elastic fibers imbedded within which are branched tubular glands, sometimes regarded as serous, but more often as of the mucous type. It is from this area that the sense of smell is communicated.

The mucous membrane of the respiratory portion is quite different in gross structure, much thicker, redder, and spongy. Microscopically the epithelium is stratified columnar and ciliated, containing numerous goblet cells. This ciliated epithelial structure covers a greater portion of the septum, the floor of the nose, inferior and middle meatuses and a portion of the superior meatus, the inferior and middle turbinate, and lines all of the five groups of sinuses. It is the presence of ciliated epithelium within these sinuses that serves to explain their peculiar physiology, and must be kept in mind in considering the treatment of diseases of the sinuses.

The supporting tissue of the epithelium is of varying thickness, the thickest over the lower turbinate, medium thickness over the septum, floor and walls of the nose, thinnest within the sinuses. It consists of an interlacing network of connective tissue and elastic fibers, which contain as their special characteristics a great number of comparatively large veins. The arterial trunks lie in the deeper layers, sending twigs to the surface to form a capillary

network beneath the epithelium, whence the large veins arise, giving to the membrane, especially over the lower turbinate, the character of cavernous or erectile tissue.

The mucous membrane besides containing many goblet cells contains also small racemose glands, which open on the free surface, some of which secrete serous, others mucous fluids. The serous and mucous glands within the accessory sinuses are quite meagre.

Of minor importance is the nerve supply, the olfactory nerve supplying the extreme upper portion, and conveying to the brain the sense of smell, whereas the sense of touch and pain are conveyed by the anterior ethmoid and naso-palatine nerves, branches of the fifth nerve.

Physiologically, the nose may be divided into two portions, bounded roughly by the middle turbinate bone. The lower or respiratory portion chiefly through the mucous membrane covering the lower turbinate, serving to warm, purify and moisten the inspired air; the upper or olfactory portion serving to convey the sense of smell, and some authors add to these two other functions, namely phonatory, enriching the voice by overtones, and gustatory, which, after all, is simply that smell which is supplementary to the sense of taste.

The pathological conditions of the nose classify themselves into four divisions: neoplasms, deformities, acute inflammations, and chronic inflammations.

The neoplasms do not enter into our discussion. Suffice it to say that they do occur, they are rare, they are of all sorts, arise from all portions of the nose and its sinuses, and are both benign and malignant.

The deformities of the lateral wall of the nose are concerned chiefly with the results of inflammation; however, the turbinate bones may be abnormally large or small. They may be folded against the wall of the nose in an abnormal position, especially the middle turbinate, which may lie so close upon the infundibulum as to partially obstruct it. Portions of the ethmoid, especially the bulla, may project and cause obstruction. The chief deformities of the nose, however, are those of the septum. The cause of this is a question. Many are undoubtedly due to blows received upon the nose in early childhood, others seem to be a matter of development, or disproportion in growth between the septum and the other bones of the face. Many are doubtless perichondrial and periosteal thickenings due to chronic inflammation. The septum may be bent to one side, projecting into one nostril by a single curve, it may present a double "S" shaped curve projecting into one nostril high up and into the other nostril lower down. There may be projections from one or both sides of the septum, giving it abnormal thickness, so as to occlude both nasal passages. These deformities are of all shapes, from a spike-like spur to a long, gentle curve, and located in all portions of the septum, but most frequently in the middle and anterior thirds. The essential point is that these deformities either do or else do not produce obstruction, depending upon their relation to the adjacent tissues, and are therefore to be classified as obstructive or nonobstructive.

Acute inflammation occurs here as upon the other mucous surfaces of the body. Here, too, are manifested the four cardinal signs, redness, heat, pain

and swelling. And here, too, occur the sequence of events as in all other acute inflammations upon the mucous and serous membranes. That is, in the presence of the irritating agent there is dilation of the capillaries and smaller blood vessels and the engorgement of the tissues with blood. The leucocytes hasten to this area, force their way out of the blood vessels into the tissues; the surface glands both mucous and serous are stimulated to an increased secretion, desquamation of epithelium occurs until the stage of resolution begins, when the engorgement subsides, leucocytes disappear, cell bodies shrink, but as a result fewer elastic tissue cells remain behind and there is more or less increase of the connective tissue elements, and the ciliated epithelial cells are replaced to a certain extent each time by flat squamous ones without cilia. This, of course, corresponds with the clinical symptoms, —first, that of dryness, and swelling of the membranes of the nose with plugging of the nares, soon followed by the discharge of serous and mucous fluids, more or less mixed with desquamated epithelium, leucocytes and other debris, the muco-purulent discharge.

Chronic inflammation is, generally speaking, the result of repeated, or recurrent, acute inflammatory attacks, the repeated processes of resolution resulting in a destruction of elastic tissue, in the increase of connective tissue, in the hypertrophy of mucous and serous glands, and the replacement of ciliated epithelium, finally giving rise to a condition in which the tissue overlying the bones is thickened and covered with squamous epithelium. This thickening may be made up on the one hand of a fairly dry, firm connective tissue; on the other hand of a boggy edematous tissue with large lymph spaces. This latter is deposited over the lower turbinate, especially during the period of early adult life, and later is transformed into the firmer connective tissue, although I have seen the true hypertrophy of the lower turbinate at the age of fourteen. In later adult life the edematous tissue is oftener polypoid in the region of the middle meatus, or originating from the accessory sinuses. But in any case, it is a result and a manifestation of chronic inflammation. All the elements of the mesoderm take part in this chronic inflammation. The elastic fibres become broken up and atrophied, the lymph spaces become dilated and lose their elasticity, and even the periosteum and perichondrium are involved, especially that covering the septum, as is shown by the increase of the septal deviations and spurs over a period of years during the course of chronic inflammation, leucocytes come to be a constant habitant in the meshes of the tissues, and these escaping and mixed with the increased output of the hypertrophied mucous and serous glands produce the typical mucopurulent discharge of chronic catarrh.

Concerning the causes of acute inflammation, I trust that your professor of physiology and your professor of pathology are both here and will explain the difficulties which one encounters in studying this question, and if I advance any theories (none of which are, however, original with me) which are not correct, I trust you will set me right. For the phenomena of a common cold are amongst the hardest to understand of all internal medicine.

The nasal mucous membrane is a con-

stant habitat of the organisms concerned, that is, the meningo-coccus, the pneumo-coccus, the micro-coccus catarrhalis, the b. influenzae, the b. diphtheriae and others. They live here, multiply, are washed away by the secretions from day to day, and months pass with their doing no harm. Suddenly the patient finds himself with his nose stuffed up, the following day with a discharge, in other words an acute rhinitis. What has occurred? The popular idea of exposure to cold, wet, etc., is too widespread to be ignored, although at one time we were inclined to look upon this with contempt.

Proof is wanting of the existence of bacteria in the tissues during the initial stage of a rhinitis, whereas the vasomotor reaction during this stage is very active. Publications of Wright of New York have thrown considerable light upon this subject, and the theory which he has constructed appears to explain quite satisfactorily the onset of this disease. Certainly there is something about the nasal mucous membrane differing from that for instance lining the mouth, in the nature of its inflammations. On the other hand, the inflammations of the nose do not partake of the nature of a primary bacterial infection. There is lacking the symptoms of a general cellulitis. The infection is not localized. One does not get abscesses, but it is bi-lateral and selective, choosing the lower turbinate especially, manifesting itself less upon the septum, and reaching the sinuses only by a process of extension. The course is too rapid, for two or three days cover an acute rhinitis, while several times as many days are required for a bacterial infection; so that one is forced to assume the existence of some other factor than that of bacteria alone.

So then in the cause of acute inflammation, we must assume that there are three factors: first, bacterial, second, the factor of immunity, and a third, which we may call the biochemic. The first two are too familiar to need any discussion. The third, the biochemic factor, is to me at least of comparatively recent origin. The best description I have seen of this is that given by Wright of New York. The theory which he advances is somewhat as follows. There exists a surface tension and relation between the molecules of certain body fluids and the molecules of the inorganic colloids, the penetrability of cell boundaries by inert and by living matter is governed according to the state of the surface tension between the cell itself and its contiguous granule. For example, the surface tension of water is changed by the dissolving of simple salts, and thus there follows a different distribution of oil globules, which are introduced in suspension. In a similar way, the surface tension of the cell walls is changed by the presence of certain inorganic salts. Supplementary in the biochemic theory is the vasomotor action. In the nasal mucous membrane, this is marked, and is evidenced by the transudation of fluids from the blood vessels into the tissues and from the surface of the mucosa, resulting, on the one hand, in chronic edema of the nasal mucosa and the formation of nasal polypi, and on the other hand, resulting in more or less profuse watery nasal discharge. There is a relaxation of the cell walls due to nerve currents, which acts in vascular dilation. The muscle cell contracts and functionates by reason of the shifting

of the electric polarization on its surface, due to a change in the electrolytic salts brought about by nerve impulse. The fat-like chemical constituents of the tissues, mixed with the proteins, go to form a colloidal-like compound on the periphery of all cells. This forms a somewhat permeable membrane, which is transfused by fluids, according to its content of electrolytic salts. There is no well grounded proof that any micro-organism is regularly associated with simple acute rhinitis within the tissues, and where there is evidence of the presence of bacteria in the later stages, we still must presume the antecedent influence of some other factor which is of a non-microbic nature. This may not be a universal rule. There may be cases which are bacterial infection from the start, but not all cases are such. The biochemic process, occurring regularly, brought about by molecular activities, as the result of nerve impulse through the sympathetic system, is apparently an antecedent, at least, in the majority of bacterial infections of the nasal mucosa. This sympathetic nerve impulse is due to either internal or external causes: external such as chilling or exposure of different portions of the body, inhalation of pollen of goldenrod, etc.; or internal, such as the toxins from food, or gout, Bright's disease, diabetes, etc. In general there is an interchange of electrolytic salts in the tissues, as the result of nerve activity especially sympathetic, and the effect of these electrolytic salts on the proteo-lipoids or colloids of the tissues evidently is important as regards the receptivity of the tissues to bacteria, and their toxins, both as regards the walls of cells in deeper tissues, and the surface wall of the epithelium of the nasal mucosa.

Another factor playing an important part in acute inflammation is the matter of obstruction. Take for an example a deflection of the septum opposite the lower turbinate body. During the physiological expansion and contraction of the lower turbinate, it may come in contact with the septum and by this contact irritation occurs, giving rise to an attack of acute inflammation, where otherwise there would be none. If, as is rarely the case, the two tissues are in contact during the period of contraction, inflammation would be still more frequent. And in another way, the dictum as laid down by various writers, that every part of the nasal passages and their accessory sinuses should have both free ventilation and free drainage, holds true. If any part of these passages is shut off from the current of air, or if any portion of the nasal passages is obstructed so that its fluids cannot flow easily, an irritated condition is thereby maintained, which increases the activity of this third factor in nasal inflammation.

Moreover, as referred to in the anatomy of the nose, many of its sinuses and spaces have their openings so placed that their contents cannot drain by gravity. Here it is that the cielia play an important part, by the wavelike motion, carrying foreign material toward the outlet and keeping the sinuses cleansed. If the outlet is obstructed so that the contents of the sinuses are retained, and inflammation occurs, resulting in the destruction of the cells and their replacement by smooth stratified epithelium, and from then on, the sinus empties itself only in so far as gravity makes it possible. All of which leads us

up to chronic inflammation, the condition with which we are dealing tonight.

This is well classified into three divisions, first, the alternating or recurring turgescence or stenosis. Probably the best combination of these words is recurring stenosis. Here the patient complains of having a cold all of the time, or most of the time, or every few days, or every few weeks, according to the severity of the condition. Lying down at night the nostril next to the pillow may be plugged, the opposite one free, and on turning over the reverse occurs.

These cases considered singly are to all intents and purposes, acute inflammatory attacks and many of them find a result in atrophy of the submucosal tissues, whereas others result in the second division of chronic inflammation, hypertrophic or hyperplastic rhinitis. An attempt has been made to differentiate these two; that the hypertrophic rhinitis is due to an increase in the size of the individual cells, and the hyperplastic is due to an increase in the number of cells. These seem to me a minor point. Perhaps the professor of pathology will set us right on this. Here we find the lower turbinate covered with a tissue thicker than normal, which does not shrink under an application of cocaine and adrenalin, and on the posterior end of the lower turbinate may be a distinct mulberry tumor made up entirely of granulation tissue. Together with this, the surface may show a tenacious fibrinous exudate, or loose muco-purulent discharge, in one or another portion of one or both nostrils.

The third division is that where the accessory sinuses become involved. They may be maxillary, the frontal, the ethmoid, or the sphenoid, and the membrane lining the walls may be simply in a catarrhal stage, or suppurating, or alternately both. According to the location of the infection pus will appear either under or above the middle turbinate, and accompanying this condition often occurs the outgrowth of polypi.

So that chronic inflammation may be due to seven different causes, first, purely internal, you may call this vaso-motor, biochemic, or any other word that suits you best; second, to microbic infection; third, as a result of deformities; fourth, to bio-chemic conditions combined with microbic causes; fifth, bio-chemic conditions combined with deformities; sixth, to microbic action combined with deformities; and seventh, to the combination of all three, vaso-motor, microbic and deformities.

A clear idea of these causes is necessary for a diagnosis of any given case. Inasmuch as the treatment of a case of chronic catarrh resolves itself into a choice between surgical and medicinal measures, it is very important to make a correct diagnosis of the existing condition and also of its cause, and the diagnosis of the present condition resolves itself into a question as to what stage of chronic inflammation the patient is suffering from. The history of an alternating stenosis alone is usually sufficient to make that diagnosis. The history of one nostril completely or partially occluded and the other one free, suggests at once a deformity on that particular side, especially if it has been of long duration, but one will not always get the history of pus discharge even when it is present. The age of the patient is of considerable importance. The alternating stenosis and hypertrophic

(*Concluded in July Number*)

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

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All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.

The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., June, 1916.

Editorials

ANAPHYLAXIS

With the theory of acquired immunity to certain diseases the world has long been familiar. As early as the XIVth century it was established by law that persons who had recovered from the plague should alone be employed in the care of patients ill with that disease. The immunity which an attack of smallpox gave to those who recovered was observed even longer ago than the date we have mentioned. The greater part of the acute infectious diseases confer the like safeguard. All this is common knowledge, but it is not so generally known that there are certain conditions which induce, not immunity, but liability to a recurrence. In the former cases the development and persistence of anti-bodies,—of an antitoxin that endures in the blood, have been believed to provide immunity from further attack, and Ehrlich and others have established and confirmed the principle underlying such immunity.

But the theory of increased and increasing liability to certain specific diseases has not yet been fully discovered and demonstrated. These phenomena cover a wide range of conditions and seem at first thought to constitute a perverted immunity,—a kind of protection gone wrong,—although a more careful analysis may perhaps prove them to be an unavailing step toward and not away from true immunity. The seeming distinction between the two processes nowhere more clearly appears than the way different individuals react to the repeated sting of insects. Beekeepers, as a rule, after being repeatedly stung, reach a condition where the sting of a bee produces no effect whatever on them. There is no reaction. No pain, redness, or swelling, follows the sting. But in some rare instances Weber and Atkinson have shown that the second or third sting is followed by a reaction which is marked by pallor, dizziness, dyspnoea, cyanosis and collapse. Similar symptoms we have all observed as a result of eating oysters and clams, and we have made a tentative diagnosis of ptomaine poisoning, which has at least shown us the necessity of the speedy elimination of the offending food. Another class of these cases is poisoned by buckwheat or coffee

or eggs or strawberries or tomatoes, and while the urticaria that results is not alarming, we yet realize that there must exist, in these persons so affected, an idiosyncracy from which the great majority of people are entirely free. In some children, too, there is no doubt that cow's milk is a poison, although other children thrive on milk from the same dairy. The pollen of ragweed or golden rod, the air of a stable or a haymow, the dust of certain localities, induce in some unfortunately susceptible people the intolerable distress of hayfever, or of asthma. Indeed, asthma patients often find such miraculous relief from a mere change of air, that the world seems to them for a time entirely blessed; but after a year or two the same old dishcartening infection returns to poison their lives and send them forth to some other place for relief.

Now all these cases of excessive susceptibility are alike in the circumstance that they are abnormally sensitive to some specific irritation. Differing kinds of irritation, affecting different people, produce symptoms which present marked similarities. I have not attempted to include, in the above enumeration, all of the forms that this hyper-sensitiveness may assume or all the conditions under which it may appear, but any consideration of this subject must be incomplete without recalling to our minds the experience that has become so well recognized as occurring after the use of diphtheria anti-toxin. Many cases have been reported where after an insufficient protective dose of the anti-toxin, diphtheria has actually developed and a second dose of anti-toxin has been administered. In a certain proportion of these cases sudden and serious symptoms have, within a few hours, come on. Dizziness, faintness, cyanosis, labored respiration and swift collapse have in these cases occurred, and some instances of death have been reported. The protective injection has been really, in these cases, a sensitizing dose and the shock that followed the second injection, while presenting no indication of diphtheria, has been due to the violence of the reaction. In the Schick test for diphtheria and the Pirquet tuberculin test, the reaction that occurs locally and that is at times attended with severe general reaction, rests on exactly the same basis and reproduces exactly the same conditions. In these cases, as there has been no previous introduction of the anti-toxin or of the tuberculin, we must assume either an inherited or an acquired sensibility which preceded and prepared the system for the reaction, in other words, an infection, which has unconsciously sensitized the patient. All of these phenomena are now grouped under the head of anaphylactic processes or of anaphylaxis. The word itself excites criticism but the wisdom of introducing some name which may conveniently cover this array of cases must be generally admitted. It is probable that the further study of the phenomena of anaphylaxis will result in the admission to the list not only of ptomaine poisoning but of antoinfection and of those cases which we have hitherto regarded as intestinal intoxication. Perhaps the skin eruptions of the acute infections diseases, in addition to many other cutaneous diseases, including the skin lesions of secondary syphilis; perhaps

even eclampsia, gout, and the great family of rheumatic and rheumatoid diseases, may eventually be included among the phenomena of anaphylaxis.

However, speculation aside, enough has been done to prove that certain conditions and diseases are due to the introduction of a foreign protein within a body that has been especially sensitized to welcome it. The phenomena of anaphylaxis may be either cutaneous, intestinal, respiratory or general. Of the first we have many examples,—among them, urticaria from eggs, buckwheat and strawberries, as well as infantile eczema and erythema from cow's milk. Cow's milk also frequently causes vomiting, diarrhoea and fever in children who are sensitized to its toxic effects. Egg albumen at times causes the same symptoms in infancy and childhood. We have spoken of hay-fever and bronchial asthma, but it is probable that all cases of severe anaphylaxis are attended with labored and irregular respiration, while many of the fatal cases have swollen tongue and oedema of the glottis in addition to the difficulties of breathing. Generally, these attacks are acute and the patients either get well or die within a few days at the latest, but a chronic form is also recognized where degenerative processes are found in the kidneys, heart and liver.

The diagnosis of these cases is usually easy. Adults have discovered their idiosyncracy and have learned to avoid those foods that "give them indigestion." In children, too, and infants the condition is unmistakable in the great majority of cases. People with hay-fever and asthma, as a rule, do not need to be told what is the matter with them, but if there be any question as to the specific cause, a little of the suspected protein rubbed into an abraded area on the forearm will soon disclose whether or not the suspicion was a correct one. In fact, this is the method used in the Schick and the Pirquet tests.

In the majority of cases, the diagnosis and etiology discover the treatment, which should be first of all preventive,—prophylaxis as opposed to anaphylaxis. This does not mean merely the avoidance of the food or condition which is recognized as the immediate cause of the attack; it means also the establishment of immunity by frequent small doses of the poison. In children for example, small quantities of milk, given frequently, will overcome a condition of anaphylaxis which was induced by larger quantities given at longer intervals. In the case of the child or nurse who has had a protective injection of diphtheria anti-toxin and who subsequently develops diphtheria herself, it would be well to begin with minute doses of the anti-toxin, not only to be sure that no anaphylactic condition exists, but to overcome it when it does exist by introducing the anti-toxin in small quantities and at frequent intervals until you are sure that no disastrous effect will ensue. Of course in intestinal cases, which seem to be the most numerous, calomel and a saline will rid the bowels of the peccant or toxic material. Shock, such as we have described as occurring in the more se-

vere cases, and which may assume the most intense form, atropin, adrenalin, heat, hypodermoclysis, and such other means as are useful in such cases must be employed.

We have thus given a meagre outline of what promises to become a valuable branch of internal medicine, and which has, in effect, already become so. The collection of a number of unconnected diseases and diseased conditions and their formation into a homogeneous group, is not only an achievement in scientific classification but a great help to orderly thinking. The scientist's prayer—we hope not his only prayer—is "What is dark in us, illumine," and this is one of the ways in which that prayer is being answered.

To explain the process by which the foreign protein acquires its toxic action in the body, many experiments have been made and some formidable hypotheses have been elaborated. Vaughn found that when any protein molecule is broken up, a toxic element is liberated, which, when injected into a guinea-pig, produces a condition of shock resembling that caused by anaphylaxis and which he considers identical with it. This element thus liberated is called by Friedberger anaphylatoxin, but whether this process of liberation is due to the proteolytic content of the blood or to an increased reaction on the part of the fixed cells to the specific antigen, is as yet disputed. Perhaps either condition will produce the factors which are necessary for its production.

In an address on The Protein Molecule, delivered by Doctor Victor C. Vaughn before the Brooklyn Pathological Society and published in the May number of the Long Island Medical Journal, an interesting account of the development of poisonous substance from the bacterial cells is given. "The method of doing this," says Doctor Vaughn, "was to heat the bacterial cellular substance in a 2 per cent. solution of sodium hydroxide in absolute alcohol. By splitting up the bacteria in this way, we obtained a soluble poisonous substance. Having found this soluble poisonous substance in both the pathogenic and the non-pathogenic bacteria, we were led to try to see if we could find any poison in other protein material, so we went to work with animal proteins. We tested the casein of milk, serum albumin and serum globulin. We tried muscle, nerve, and all the tissues of the body, and we found in them all the same poisonous substance that we found in bacteria. We then went to work with vegetable proteins, the gluten of flour, the zein of corn meal, the edestin of hempseed, and various other proteins, and we found that they all contain just as much poison as the bacterial and animal proteins. So far as the work has gone, and very extensive work has been done, not only in my own laboratory but elsewhere, no true protein has been examined which has not yielded a poisonous substance."

Reasonably assuming that similar changes take place in the living body, Doctor Vaughn applies the result of his experiments to living conditions.

"In every infectious disease there is a period of incubation, during which bacteria are multiplying with enormous rapdity, and still there is no evidence of disease. It is undoubtedly true that the growth and multiplication of the bacteria in the body do not directly cause either the symptoms or the lesions

of disease. When the period of incubation stops, and the period of active disease begins, a different process is inaugurated. The symptoms and the lesions of infectious disease are due to the destruction of the bacteria by the body cells." This does not in any way tend to explain the variations of diseases, each true to its own type, which form so important a factor in nosology and diagnosis, but it does throw a good deal of light upon the question of anaphylaxis and for that reason we quote it. But however the phenomena of anaphylaxis may be ultimately elucidated and whether the explanation be attained by chemical or biological means, the clinical identity of the causes of the abnormal conditions that we have briefly summarized, rests upon observations that are not to be easily controverted, and opens up an interesting field for clinical as well as laboratory research.

BENNINGTON

The Henry W. Putnam Memorial Hospital

On Wednesday, May 31st, ground was broken for the new hospital at Bennington. The erection of the hospital building, they inaugurated, was rendered possible by the generosity of the gentleman whose name is thus commemorated and by the added gift made by his son, Mr. Henry W. Putnam, Jr. It seems fitting at this time to state in brief detail the history of this public benefaction.

In December, 1912, Mr. Putnam gave to the Village of Bennington a deed conveying to the Village the entire right and title to the Bennington Water Company. His purpose was that the revenue therefrom be applied to the maintenance of a public hospital in Bennington, and for three years this revenue has been accumulating in the hands of the trustees until it has now reached the sum of $40,000, and assures a net annual income of $15,000. In January, 1915, Mr. Putnam died, and a year later his son, emulating his father's munificence, gave the Village the sum of $90,000 for the immediate erection of the hospital for whose maintenance Mr. Putnam, the elder, had so generously provided.

Plans for the building had already been prepared by Mr. Harry Leslie Walker, a New York architect, and after the gift of the money for its erection, the contract was awarded to McDermott and Hennigan at the cost of $90,500. The plans have been submitted to several experts, who have given them their unqualified approval. The capacity of the hospital will be 38 beds, comprising two wards of eight beds each, one large room with four beds, two double rooms and fourteen single or private rooms, besides the administration offices, operating room, X-ray room, clinical and bacteriological laboratories and all the other necessary departments of a fully equipped hospital.

A fine site, containing about sixteen acres, has been chosen for its location, secluded and yet easily accessible, on the rising ground midway between Bennington and Old Bennington and about a half-mile distant from the centre of each village. This land was purchased for $6,500, toward which sum Mrs. W. E. Hawks contributed $1,000.

The ceremonies attending the breaking of the ground were simple and ap-

propriate. A few words of introduction by Mr. Nichols, the President of the Board of Trade, were followed by an invocation by the Rev. Mr. Mills. Mr. Braisted, the Village President, spoke in the name of the Village and Mr. Putnam, the donor of the building fund, opened the ground with a spade. The address of the Rev. Dr. Jennings concluded the services in which over a thousand spectators participated. A very deep feeling of admiration and gratitude is universally entertained by the people of Bennington toward these two gentlemen, father and son, who have so generously provided shelter and care for the sick of our community.

C.

Secretary's Page

Add the following names to the 1916 Roster.

Chittenden County

Dr. D. A. Shea and Dr. F. E. Clark of Burlington.

Rutland County

Dr. R. H. Miner of Windsor.

Windham County

Dr. J. J. Bresnahan of Bellows Falls.

Total Membership 388.

The following County Societies have no delinquents:

Addison
Bennington
Lamoille
Rutland
Washington
Windsor

* * *

The next meeting of the Washington County Medical Society, June 14th, will take the form of an outing at East Randolph.

Dr. Ray Ernest Smith of Rutland will give a talk on some obstetrical subjects in the post gradnate course furnished by the State Society.

Dr. Wm. Seaman Bainbridge of New York who took part in the Cancer Meetings last year and in the Post Graduate Course at Burlington in May of this year will hold a clinic at 9 a. m., June 17th at the Rockingham Cottage Hospital, Bellows Falls, Vermont, before the Connecticut River Valley Medical Association, and any cases for consultation or operation may be presented.

For information address Dr. A. S. C. Hill of Bellows Falls, Secretary of that Association.

* * *

Dr. Floyd M. Crandall of New York has been appointed Secretary of the Medical Society of the State of New York to vice Dr. Wisner R. Townsend, deceased.

* * *

For the Department of Progress in Medical Science, Dr. Lyman Allen of Burlington has been appointed reviewer for the Section on Surgery and Dr. Ray E. Smith of Rutland for the section on Obstetrics and Gynecology.

Progress in Medical Science

SURGERY

By Garnett W. Quillian, M.D., of Atlanta, Ga.
(*Annals of Surgery*, April, 1916)

Crile pointed out in his article on the "Influence of Acidosis in Surgery" (*Annals of Surgery, Sept.*, 1915) that operation trauma and inhalation anaesthesia always produce acid by-products, which affect primarily the brain, the adrenals, and the liver, and thereby encourage the production of an acidosis with its resulting shock. In 138 consecutive major operation cases Dr. Quillian used soda bicarbonate by mouth and rectum, and glucose by the rectum for several days preceding and following operation, with a great reduction in nausea and shock. This he ascribes to the prevention of acidosis. Both of these articles are well worth reading.

"Peritoneal Adhesions: Their prevention with Citrate Solutions" by M. H. Walker, Jr., M.D., and L. M. Ferguson, M.D., of Pittsfield, Mass., and another article on the same topic by Saxton Pope, M.D., of San Francisco (both in the *Annals of Surgery* for February, 1916) show the good results following the use of citrate solutions in preventing post-operation abdominal adhesions. The solution seems to be of more value in preventing the formation of adhesions than in curing them after they have once formed. This treatment is not a substitute for peritoneal grafts or omental transplants. Many experiments were performed on rabbits and the solution was used in some 400 abdominal sections by Dr. Pope. The theory for the use of citrate solutions is that citrate prevents the formation of fibrin, and the first step in the formation of adhesions is the production of a mass of fibrin, thus the formation of adhesions is checked at the very start. One of the articles advises the use of citrate of sodium 3 per cent. and sodium chloride 1 per cent; while the other advises 2 per cent of each.

All sponges, pads, etc., are moistened with this solution, and in some instances a considerable quantity (as much as one pint) is left in the peritoneal cavity, sufficient to bathe the entire peritoneum.

The procedure causes pain and partially rouses the patient. The abdominal wounds show more oozing during closure but it did not seem to lead to failure of union or post-operative bleeding. It did not increase the liability to infection. It is a safe surgical procedure.

Petrolatum, camphorated oil, olive oil, butter, sugar solutions, ether, salt solutions, vitreous humor, paraffin oil, various membranes and powders were tested. Some were positively harmful and none compared with the citrate and salt solution in preventing adhesions."

L. A.

OBSTETRICS AND GYNECOLOGY

Last week Dr. De Lee was undergoing cross examination while a witness in the Wine of Cardui suit. Mr. Hough, the attorney for the Wine of Cardui Co., asked in his examination: "The practice of obstetrics is on a very low plane, isn't it?" The answer was: "The prac-

tice of obstetrics is still on too low a plane. It ought to be higher, and it is going higher every day—the ideal would be for every woman to be in a hospital with her physician in constant attendance.'' Probably every man engaged in obstetrical work will sound an Amen to Dr. Lee's ideal. In the vast majority of cases, however, this is an impossibility and we must work under the handicaps of private practice and, ofttimes, inadequate assistance.

Dr. Banghman (*Jour. of Obs.*, Apr., 1916) has a timely article on the subject of making labor more comfortable. He says that ''if pain were eliminated from the world the medical profession would pass with it.'' Our patients come to us either for the relief of pain now present or for protection against pain they expect to experience. The pregnant woman suffers from an increased thyroid secretion which makes her more sensitive to pain. In addition she has had nine months of greater or less discomfort during which time she has also been encouraged(?) by tales of the dangers and painfulness of the approaching ordeal related to her by friends(?) who have passed through the experience. The patient is approaching twenty-four hours of the most severe suffering she has ever undergone. It is the duty of the obstetrician to provide every safeguard against both physical pain and mental suffering. Confidence in the physician is the best safeguard against the mental suffering and is best secured by his early engagement. Some method of obtunding the pain of the first stage is essential in the primiparous woman. Banghman is partial to chloral hydrate either alone or combined with morphia or sodium bromide giving 20 gr. of the chloral by rectum when the cervix is dilated to the size of a quarter and repeating half the dose in four hours if needed. With this he sometimes combines ⅛ gr. morphia. This dosage should not be given within an hour of the birth of the child and is a first stage treatment only. Chloroform, ether or ether-gas anesthesia should always be given at the time the presenting part is slipping through the cervix and again when delivering over the perineum.

Hemorrhage is the night-mare of the man doing obstetrics. Placenta previa and premature separation of the placenta are the two causes of nine-tenths of the hemorrhages occurring in the last few months of pregnancy.

R. M. Beach (*L. I. Med. Jour.*, Vol IX, 1915) considers the management of placenta previa as being essentially surgical. Beach reports a maternal mortality of 3.1 per cent and a foetal mortality of 68.2 per cent from following the rules herein laid down:

With active hemorrhage and patient in a private house—do a Braxton-Hicks version.

Between sixth and seventh months with rigid cervix—do vaginal Cesarean.

After seventh month, in marginal insertion of placenta and live baby—rupture the membranes, and if bleeding is not controlled, use bag dilator.

If baby is dead—do a version.

In central implantation at term, or near it, with live baby—do abdominal Cesarean section unless the cervix is well dilated.

Never do extraction following version. Leave delivery to nature.

Braxton-Hicks version is method of choice where the mother is in weakened condition.

The treatment of incomplete abortion is always somewhat of a problem to the best of us. Expectant treatment is not always safe and curetment not always satisfactory. J. L. Bubis (*Am. Jour. of Obs.*, April, 1916) gives a most flattering report of the use of pituitrin in this condition.

The cases are prepared in the usual manner save that there is no preliminary packing of the cervix or vagina. The cervix is dilated by proper instrumentation under anesthesia. One ampoule of pituitrin is then injected and a sharp curette inserted into the uterus at the first symptom of contraction. The contracting uterus forces the retained material down toward the cervix and very slight manipulation with the curette serves to completely detach and remove it, the hemorrhage ceases and the case makes a rapid recovery.

Along with the many other problems that continually arise, like Banquo's ghost, to try the temper and experience of the obstetrician the question of adequate treatment of the freshly wounded perineum is omnipresent. Given the conditions as they exist, with stitches constantly flooded, tissues macerated and bruised, the wonder is not that we occasionally fail to secure a good repair, but that we ever succeed in doing so. E. B. Young (*Boston Med. and Surg. Jour.*) states that he has had unusually good results by discarding the perineal pad after the first twenty-four hours. The

wounded surface is then kept liberally dredged with sterate of zinc powder compounded with boric acid. This powder is applied best with the patient lying on her side. No pad is placed over the perineum but a sterile one kept under the buttocks to retain the discharges. If there is a tendency to maceration of the skin a ten per cent aqueous solution of ichthyol is painted on the parts before the use of the powder.

J. L. Bubis reports in the last issue of the *Am. Jour. of Surg.* an unusual experience and one that must have caused the doctor no little uneasiness. A woman came to the office for examination complaining of abdominal pain and uterine hemorrhage. Digital examination disclosed what appeared to be a cystic tumor the size of a lemon in the right cul-de-sac. While outlining the tumor it suddenly collapsed under the examining finger. No pain was experienced by the patient and she refused immediate operation which was advised by the doctor. Against his protests she walked to her home over a mile distant, and with no apparent bad effects. Twelve days later she consented to an operation for the relief of the hemorrhage which still persisted. This operation disclosed an enlarged, collapsed ovary lying in a pool of blood-clots in the right cul-de-sac. There was a ragged hole in the surface of the ovary bearing out the diagnosis of a ruptured ovarian cyst. The tube and ovary were removed and an uneventful recovery ensued.

R. E. S.

PATHOLOGY AND BACTERIOLOGY

The Dakin-Carrel "New" Antiseptic

The above antiseptic is a 1-200 calcium hypochlorite solution and is substantially the same as that discovered by the French chemist, Berthollet, in 1788, except that he used a sodium base instead of a calcium. At the time of its discovery Berthollet was uncertain as to the exact chemical composition of his antiseptic. In 1808 Berzilius expressed the view that the product formed was a mixture of a salt of an unknown acid (or chlorin) with sodium chloride. It was not until some thirty odd years later that Balard definitely settled the composition of Berthollet's solution as being a mixture of sodium chloride and sodium hypochlorite, producing hypochlorous acid with its known disinfecting properties. Labarraque in 1820, a few years before Balard definitely determined the composition of Berthollet's solution, prepared a similar solution commonly known as Labarraque's disinfecting fluid, with a calcium base instead of a sodium base. This calcium hypochlorite fluid was the disinfectant used in 1846 by Semmelweiss to completely irradicate puerperal endemic fever from his clinic. The history of the use of these analogous solutions proves that the disinfecting properties of "hypochlorous acid" had been known and used for generations.

The destructive effect of these strongly alkaline solutions upon normal tissues, causing excessive connective tissue formation, increased time of wound healing, restricted joint action, etc., had always been their drawback. The material difference between these older solutions and the Dakin-Carrel solution is the fact that the latter is isotonic instead of being strongly alkaline. Dakin claims no priority as to the discovery of this solution but it was his idea to neutralize the alkalinity of the sodium hypochlorite solutions by the addition of boric acid in sufficient quantities to make the solution react negative to phenolthalein. He claims that the addition of the boric acid makes no difference in the disinfecting properties of the calcium hypochlorite solution. It is obvious that an isotonic solution can be used in places to an advantage for the disinfecting of wounds as compared with a strongly alkaline solution.

Carrel has subsequently modified the Dakin technique for the preparation of his isotonic solution by complete carbonization, rather than by the addition of boric acid. The solution is now being prepared as follows:

200 grams of chlorinated lime are added to five liters of water in a twelve-liter container. This mixture is thoroughly agitated and allowed to settle overnight. Then 100 grams of anhydrous sodium carbonate are dissolved cold in 5 liters of ordinary water. Solution No. 2 is poured into solution No. 1, the two mixtures being thoroughly stirred for a few minutes and then time is allowed for the calcium carbonate to thoroughly settle, after which the clear supernatant fluid is syphoned or poured off through filter paper. This filtrate becomes the new disinfecting solution. It should react negative to phenolthalein powder dropped on the surface of the solution.

Uffoltz reports the use of this solution in

some 18 cases as demonstrating the good results being obtained with it. There were twelve shell wounds and six extensive bullet lacerations, all of which healed by primary intention without exception. He describes one case in detail in which Dakin's solution was used according to Carrel's continuous instillation method. The case, which was one of an extensive shell wound of the left arm with the loss of the biceps and superficial structures, the humerus itself being denuded but not injured, reached the surgeon's hands three hours after the injury. On the ninth day the deeper structures were brought close together with a U suture and tied over a rubber tube. On the eleventh day a similar secondsuture was made. The nineteenth day these sutures were removed, the wound was then up to the surface; and the edges were brought closer together with strips of adhesive plaster. By the 42d day the wound was merely linear and six days later had entirely healed.

Carrel's instructions besides the continuous irrigation with the Dakin 1-200 hypochlorite solution are that smears should be made frequently and as soon as the wounds clears up of all offending organisms that it should be brought together by adhesive strips, not sutures, and allowed to heal by primary intention.

Tuffier relates in his Paris letter that it can never be reiterated too often that infection can be nipped in the bud, while if allowed a few hours to develop gets beyond control. For this reason he advocates the early use of this solution to all infected surfaces.

According to the literature on the subject the concensus of opinion seems to be that this solution shortens the time of healing from one-half to two-thirds that usually taken by granulating wounds, and with a much less troublesome connective tissue formation. Dr. Charles Allen Porter, Prof. of Surgery of Harvard Medical School, recently expressed it as his opinion, as the result of his experiences and observations as a member of the Harvard Unit doing service in France, that while the "new" antiseptic was very valuable, perhaps one of the best, that he could not help feeling that some of the claims made for it were rather extreme. He freely advocated its use but cautioned against expecting that its use would *invariably* cause an infected wound to heal by primary intention. C. F. B.

PUBLIC HEALTH

Health Insurance

One of the latest activities being urged upon State Boards of Health is the inauguration of health insurance. At the recent conference of State and Territorial Health Officers with the United States Public Health Service, this matter was taken up and a committee report adopted with the following recommendations:

"The following fundamental provisions should be embodied in any health insurance measure proposed for national or state governments:

"1. *Insured persons.* Every person engaged in a gainful occupation and earning less than a specified annual income, say $1,000, should be entitled to the benefits provided under the law. Every person earning more than the specified annual income should be allowed to qualify for the same benefits or greater benefits according to the annual income.

"2. *Funds.* To be provided jointly by contributions from employees and employers; the government to appropriate for the expenses of supervision and administration.

"3. *Benefits.* The following benefits should be provided:

"(a) *Cash Benefits.* Weekly cash payments in case of disability due to sickness, non-industrial accident, or to child-bearing by the beneficiary, for a period not to exceed twenty-six weeks in any one twelve-month period.

"(b) *Death Benefits.* Cash payment (for funeral expenses) to legal heirs for death due to sickness or non-industrial accident.

"(c) *Medical Benefits.* To include adequate medical and surgical care, medicines and appliances in home, hospital, sanatorium, dispensary, or physician's office, beginning with the first day of disability, whether due to sickness, non-industrial accident, or to child-bearing by the beneficiary or the wife of the beneficiary, and limited to a period of twenty-six weeks in one twelve-month period.

"4 *Administration.*. All matters of promulgation or rules and regulations and appeals should be vested in a national or state commission created for this purpose. All matters of local administration should be vested in local boards of directors, federated according to districts, subject to supervision by central authorities, and rules and regulations promulgated by the commission.

"The commission and all local and federated boards should be composed of persons representing the contributors to the funds. The number representing employees and employers should be in the same ratio as their respective contributions.

"Provision should be made for free choice of any physician registered on the local panel.

"A corps of full-time medical officers should be provided within the national or state health service to have supervision of all hospitals and dispensary relief; to examine all insured persons claiming to be disabled, and issue certificates in accordance with the regulations promulgated by the commission; to advise the administrative authorities and all contributors to the funds as to the best measures for the relief and prevention of sickness; to advise with physicians attending sick members as to measures which will shorten the periods of disability; and to perform such other duties as may be fixed by regulations.

"The result of an investigation made for the Federal Commission on Industrial Relations afforded the estimate that each of the 30,000,000 workers in this country loses on the average about nine days each year on account of sickness. Placing the loss in wages at $2.00 a day and the cost of medical attention at $1.00 a day, the total loss to the wage earner of the nation would approximate three-quarters of a billion dollars annually. This should be added to the economic loss resulting from invalidity and death, and the loss to industry on account of decreased efficiency due to partial disability. To this should also be added the tremendous sums that are being spent by states, communities, municipalities and volunteer organizations for the support of charities, free clinics, and hospitals and the like. When all expenditures are taken into consideration, the estimate of $750,000,000 seems an insignificant sum indeed."

C. F. D.

TUBERCULOSIS

On the Significance of Temperature Variations in Tuberculosis

The fever which accompanies tuberculosis is our best guide to treatment and is of much value in prognosis as well as diagnosis. It presents certain important peculiarities. Especially is it notorious for its appearance at different hours in different cases, and for its illusiveness because of its very short duration. Fever of tuberculosis may appear at any hour of the twenty-four though most often it is found between 3 and 4 or 7 and 8 P. M. In any given case the maximum temperature recurs quite regularly at the same hour each day. When slight, 99½, the fever may be present for only half an hour or an hour. It may be present during the night and absent during the daytime.

Tuberculous disease which is slowly yet steadily progressing presents merely a subfebrile temperature of 99½° F. Yet such a low degree of fever even when lasting only for an hour or less daily marks the disease as not quiescent but as slightly active and progressive, though ever so slowly. A person suffering from considerable tuberculous toxemia and feeling quite miserable will show only 100° of 100½°, while acutely progressive pulmonary tuberculosis may and often does go on to extensive cavitation, and may be accompanied by intestinal or renal disease, and yet show a temperature not exceeding 102½°.

If we compare these temperatures with those of other serious infections like pneumonia, or typhoid fever, we are impressed with the fact that a degree of fever not at all alarming in the latter diseases is of very grave import in tuberculosis. In typhoid or pneumonia or bronchitis, we do not consider 102° as indicating a serious condition, but in tuberculosis it indicates that the disease is in full swing. 102½° in tuberculosis equals 105° in typhoid or pneumonia. A fever of 99½° in tuberculosis indicates a condition vastly more serious than the condition indicated by an equal temperature in typhoid fever. If we would confine a typhoid case having a temperature of 99½° to the bed much more should we do so with an equal temperature in tuberculosis, provided we wish to reach an arrest or cure of the disease, not merely palliation of a hopelessly chronic case. In commencing the treatment of a case of tuberculosis showing even 99½° for half an hour a day, rest in bed should be instituted. If the fever reaches 100½° or 101° the rest should be absolute, both physical and mental as in serious typhoid cases, for such a temperature marks the case as one in which the disease is progressing, destroying tissue and

probably extending. Rest in bed should continue until the fever has been entirely absent for at least a week and this may require a very considerable time. Change from rest in bed to ambulant treatment must be gradual and most carefully regulated. A recurrence of fever means a return to bed. Many a patient has lost his chance of health by refusing to yield to the call of a slight fever of 99½° daily and by continuing his work while an active tuberculous process extended to an incurable degree. Any degree of fever in tuberculosis precludes work just as it does in typhoid, though it is often difficult or impossible to make the patient believe it.

Prognosis is unfavorable in proportion to the slewness with which the fever is reduced by complete rest. A temperature of 101° or more which recurs daily in spite of absolute rest for 2 or 3 weeks is most discouraging. A similar temperature which touches a lower and lower level each day gives us hope, as it mirrors, in the mercury tube, the gradual yielding of the disease to treatment and forecasts a probable, though not yet certain, return to a reasonable measure of health or even to a cure.

H. S. G.

INTERNAL MEDICINE

DIABETES

There have been a number of articles recently on the "Allen Treatment" of diabetes.

Dr. F. M. Allen of the Rockefeller Institute found that the removal of portions of the pancreas produced glycosuria, the more pancreas removed the more severe the glycosuria.

Where only a small portion of the gland had been removed, and the activity of the gland only slightly diminished, simple restriction of the carbohydrates served to combat the glycosuria; while in the cases where more pancreas was removed and it had less functionating ability, more strenuous measures had to be used. In the severest cases, where most of the pancreas was gone and the pancreatic function correspondingly diminished, prolonged fasting was necessary to render the animal sugar-free and a careful diet to keep him so.

On these results the Allen method is based. It is briefly summarized as follows:

First.—Fasting until the patient becomes sugar-free.

This stage takes from one to ten days, usually about three to five days in the average case.

The patient should be in bed and kept quiet. All the water, clear tea or coffee the patient wants, clear meat broth every two hours, and half to an ounce of whiskey every four hours are all that is allowed during this period.

The acidosis (acetone and diacetic acid) usually disappears or diminishes with the disappearance of the sugar and without the use of alkalies.

Second.—Estimation of the tolerance, not only to carbohyrate but to protein and fat as well.

By the end of two weeks the patient's tolerance or ability to assimulate food without glycosuria should be in the average case fairly well established and the patient be on a liberal, for him, diet.

A start is made on the green vegetables, low in carbohydrates, and the amount gradually increased and other vegetables higher in carbohydrates added. Proteins, as meats and eggs, are gradually added. Fats as bacon, oil, butter and cream are tested out in increasing amounts. Any return of the sugar in the urine is the signal for a fasting until sugar-free. A fasting day is instituted once a week anyway. Tolerance is thereby increased.

Third.—The after care.

The urine is tested frequently enough to see that it stays sugar-free. The diet must be adhered to and any increase or variation watched.

The amount of exercise and work may be gradually increased.

The weight loss should cause no worry. Most cases lose some weight during the fasting and are more active and feel better so.

Clinically the cases are very comfortable and much more tractable than might be inferred. They are usually so well pleased with their

immediate well being that the loss of a few meals does not cause worry. The treatment is as applicable apparently to the young and severe as to the elderly and mild cases.

It is of course too soon to render judgment on the ultimate results but certainly the early and so far the later effects are very markedly better than was the case with our previous management of this disease.

C. H. B.

NEW AND NON-OFFICIAL REMEDIES

Since publication of New and Non-official Remedies, 1916, and in addition too those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Non-official Remedies":

Mead's Dry Malt Soup Stock.—A mixture containing desiccated maltose and desiccated dextrin (about equal parts) 47 percent., wheat flour 47 per cent., potassium carbonate 1 per cent. and moisture 5 per cent. Mead, Johnson & Co., Jersey City, N. J. (*Jour A. M. A.*, May 20, 1916, p. 1623).

Phenolphthalein-Monsanto.—A non-proprietary preparation of phenolphthalein admitted to New and Non-official Remedies (*Jour A. M. A.*, May 20, 1916, p. 1623).

Diagnosis of Female Disorders.—Manufacturers of "uterine wafers," etc., often advise the use of their preparations without physical examination of the patient when patients are disinclined to submit to such physical examination on the chance that one of the asserted constituents of the proprietary may hit the cause of the trouble. In this connection the testimony of J. Clarence Webster, professor of Obstetrics and Diseases of Women in Rush Medical College, Chicago, in the "Wine of Cardui" case is of interest: He was asked: " * * * Is is necessary to make an examination of the female pelvis in order to determine the condition, the underlying cause of the condition and the treatment which is necessary?" He replied: "It is necessary * * * Because from symptoms one can rarely have any accurato idea of the pathological conditions in the body, in this part of the body. * * * There are many symptoms which are common to different conditions and consequently it is necessary in analyzing a case to make a careful physical examination." Again, when asked "Can you determine, or can the conditions of the uterus or pelvic organs be determined merely by attention to description of symptoms which a patient gives?" he replied, "I cannot" (*Jour. A. M. A.*, April 22, 1916, p. 1337).

Viburnum Prunifolium Inefficient.—J. Clarence Webster, holding the Chair of Obstetrics and Diseases of Women in Rush Medical College, testified in the "Wine of Cardui" case that he gave up the use of fluid extract of viburnum prunifolium because he believed that the benefit that he obtained from its use in pain in association with menstruation, was due to the alcohol in it. He had never had any reason whatever to believe that viburnum was of any value in warding off a threatened abortion. When in cases of painful menstruation he used the solid extract which contained no alcohol, he could not get the same results that he had obtained before and he gradually gave up the use of the drug altogether. Arthur A. Small, senior physician at St. Joseph's Hospital Chicago, testified of extensive experience with the use of viburnum prunifolium, while resident physician in the Toronto General Hospital. As a result of his experience there he is of the opinion that viburnum prunifolium is of no value in the treatment of female disease. In these experiments both the fluid extract and the solid extract were used and it was found that the alcoholic solutions would prevent or lessen pain in some cases. In other words the only action was that of the alcohol. J. B. DeLee, holding the chair of Obstetrics at the Northwestern University School of Medicine, testified that years ago he gave large quantities of extractum viburnum prunifolium for the prevention of miscarriage, but found it useless (*Jour. A. M. A.*, April 22, 1916, p. 1338; May 13, 1916, p. 1566; May 20, 1916, p. 1639).

In Memoriam

JOHN GIBSON, M.D.
Died May 3, 1916.

John Gibson was born in Drumdock, Scotland, April 6, 1867, came to this country with his family in his early youth and settled in Cambridge, Mass., where he attended the public schools.

As a young man he prepared for the ministry, and preached from time to time, but becoming interested in the study of medicine, he entered the Medical Department of the University of Vermont, where he graduated in 1898, and started practice in Vergennes, Vermont. In March, 1903, Dr. Gibson removed to St. Albans, and on April 22, 1903, married Miss Elizabeth H. Hickok of Burlington, Vermont.

Dr. Gibson was of a very versatile nature, being an excellent conversationalist, a delightful entertainer, and a responsive guest. He was very enthusiastic in the practice of his profession, always looked on the bright side of affairs, was of a very cheery disposition at all times and to all people, and was very kind to the poor. He was greatly interested in the welfare of the St. Albans Hospital, and was personally instrumental in obtaining some of the furnishings and quite a large amount of money for remodeling of the wing of the building now nearing completion.

Dr. Gibson was lecturer on Materia Medica at his Alma Mater from 1903 to 1907, and at one time interested in Y. M. C. A. work. He was a member of the St. Albans Clinical Society, of the Staff of the St. Albans Hospital and at the time of his death its president, of the Franklin County Medical Society, the Vermont State Medical Society and the American Medical Association. He was lecturer on Gynecology to the St. Albans Hospital Training School for Nurses.

Dr. Gibson's cheery presence will be missed at the various medical societies and social gatherings.

On the evening of May 2, 1916, about ten P. M. Dr. Gibson met the writer on the street, and seemed to be in very good spirits, and arranged for an appointment for the following morning, but when morning broke he was found dead in bed, at about 7:30, having probably passed away a short time before, apparently without a struggle, death being due to angina pectoris and arterio-sclerosis.

Our sympathy goes out to his friends, and those who survive him, his widow, two brothers and two sisters.

Read before the Franklin Co. Medical Soc., May 31, 1916, by Dr. W. B. Arnold.

Proper Self-Medication.—In the course of his testimony in the "Cardui" trial, John Leeming, M.D., Chicago, explained the extent to which self-medication is to be encouraged. Asked if it was very dangerous for a person who thinks he has a cold to take some aspirin without going to a doctor, he replied that, while in exceptional cases it might be exceedingly dangerous, in most cases of simple cold it would not be so in that Nature's recuperative powers would in most cases throw off such a cold. He explained that he always advises his patients how to treat themselves for simple ailments and to come to him when there are danger signs. Asked if it was dangerous for a person with a cough to get any medicine without a diagnosis, Dr. Leeming replied that it would not be dangerous at all if the person understood his case and in consultation with his doctor he has been generally advised. In families where he is the attending physician he often advises not to send for him in case of a slight cold, but to take a little medicine that will help Nature to throw it off (*Jour. A. M. A.*, April 22, 1916, p. 1330).

News Notes

Dr. J. H. Woodward of New York, for many years past and now an active member of this society, underwent a tracheotomy May 24th and is in a very serious condition.

Dr. H. H. Miltimore of St. Johnsbury has been appointed Alternate Delegate to the 67th Annual Session of the American Medical Association at Detroit June 12th to 16th and will attend.

Dr. A. D. Ferris of Hardwick has returned from Chicago, where he has been engaged in post-graduate work.

Dr. Chas. P. Chandler of Montpelier has returned from New York, where he has been taking a post-graduate course since his graduation.

Mrs. Holcomb, wife of Dr. L. P. Holcomb of Johnson, died April 30 from Bright's disease.

Dr. J. S. Goodfellow of Alburgh Springs is removing to Canada.

Dr. L. T. Page of Wilmington is temporarily in the Maine woods for the benefit of his health. Dr Crowley of Readsboro is his *locum-tenens.*

Dr. C. L. Erwin oof Newport has resigned as trustee of the Vermont State Hospital for the Insane and Governor Charles W. Gates has appointed Charles Calderwood of St. Johnsbury to take his place for the remainder of the term, which would naturally expire on January 31st next. Dr. Erwin, who is 72 years of age, was for six years, a supervisor of insane before his appointment as trustee. Mr Calderwood, who is an undertaker, was a member of the House of Representatives during the legislative session of 1910. He has been a trustee of the State Hospital.

Dr. E. J. Rogers of the Vermont Sanatorium, Pittsford, attended the meeting of the National Association for the Study and Prevention of Tuberculosis in Washington, D. C.

Dr. G. I. Forbes of Burlington is seriously ill of erysipelas following an acute streptococcic infection.

Dr. W. W. Townsend of Rutland read a paper before the 30th annual meeting of the American Association of Genito-Urinary surgeons at Washington, D. C.

Dr. H. D. Hinman of Enosburg Falls, who has been receiving treatment in a Burlington hospital for the past two months is greatly improved in health. He left Thursday for West Charleston where he will pass a few weeks at the home of his mother before resuming his practice.

At a recent meeting of the trustees of the University of Vermont, Burlington, Dr. F. T. Kidder of Woodstock was elected a permanent member of the board to succeed C. A. Catlin, of Providence, deceased.

Dr. C. F. Dalton, of Burlington, attended the thirty-first annual meeting of the Conference of State and Provincial Boards of Health of North America. Doctor Dalton read a paper at the conference on "Minimum Quarantine and Degree of Isolation in Measles, Whooping Cough, Diphtheria, Scarlet Fever, Smallpox, and Mumps." Doctor Dalton also attended the conference of state health authorities with the surgeon-general of the United States public health service.

Dr. Frank M. Walsh of St. Johnsbury was taken suddenly ill in Burlington and was operated on for appendicitis, at the Mary Fletcher hospital. He is making a rapid recovery.

Dr. C. H. Swift of Rutland was married to Miss Carrie Sweetland of Burlington at the Episcopal chapel in that city, at 10 o'clock in the morning, June 14. They will reside at No. 51 West street, Rutland, after July 1.

Miss Emily Proctor of Proctor has made a very generous offer to pay one-fourth the cost of a hospital for Addison County not to exceed $30,000. Several thousand has already been subscribed and Col. Ilsley has made a conditional subscription of $5000, the principal condition being that $30,000 shall be raised by May 1, 1917.

Dr. E. O. Chellis, formerly of Springfield, Vt., has removed to Rutland.

Lieut. Norman M. McDonald of the 5th Mounted Rifles of Canada, son of Dr. R. T. McDonald, of Sutton, Que., who is well known to many members of this society, has been killed in action at the front in the European war. Dr. and Mrs. McDonald have the sincere sympathy of their many Vermont friends.

Dr. Marcus Corwin

Dr. Marcus H. Corwin, aged 77 years, the senior practicing physician of Chelsea, who about two weeks ago went to the Randolph sanatorium for treatment, died in that institution Friday, May 12.

Doctor Corwin was born in Chelsea November 28, 1839, and was a son of Russell and Mary P. (Hood) Corwin. He was educated in the local public schools, Newbury Seminary, was graduated from the Dartmouth Medical College at Hanover, N. H., in June, 1863, and located for the practice of his profession in the town of Corinth in September of the same year. He built up a large practice in Corinth and adjoining towns, where he remained until 1880, when he returned to his native town, where he had since resided, enjoying a large and successful practice in that and the adjoining towns until the first of the present month, when he found it necessary to take an enforced vacation and went to the sanatorium for treatment. There it was found that his trouble had reached such an advanced stage that an operation would only hasten the end.

Doctor Corwin is survived by his wife and one son, the Rev. Millard F. George, of Chelsea, An older daughter, Mrs. Walter H. Emery, died in May, 1913.

Controlled Clinical Trials.—At the "Cardui" trial which is now in progress, A. S. Loevenhart, Professor of Pharmacology and Toxicology at the University of Wisconsin, testified as to the conditions under which the clinical trial of a medicine would give results as certain as those yielded by the usual pharmacologic methods. Professor Loevenhart had testified that he preferred his students to be familiar with drugs the value of which had been clearly worked out by accurate clinical methods and shown to be useful in the treatment of disease. Asked as to the character of the clinical trials required to demonstrate the value of a drug, he held that there was no difference between a careful clinical test and a careful pharmacological test. Loevenhart explained that to determine if Wine of Cardui had the claimed action an experimenter would take a certain number of cases of amenorrhea, perhaps 50, and divide them into two sets; treat 25 with Wine of Cardui and the others without it and then make an estimate of the amount of the material passed at the time of the menstrual period. Such trials carried out in a hospital, where the physician receives his reports from nurses and is not obliged to depend on the statements of the patients, he explained, would be as reliable as a properly conducted pharmacologic experiment (*Jour. A. M. A.*, April 15, 1916, p. 1219).

BOSTON MEDICAL
FEB 20 1917
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Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 7 $1.00 per Annum

Rutland, Vermont, July, 1916.

Original Papers

THE TREATMENT OF CHRONIC INTERSTITIAL NEPHRITIS

Frederick W. Harriman, M.D.
Montpelier.

Read before The Annual Meeting of The Vermont State Medical Society, October 14-15, 1915.

Chronic Interstitial Nephritis, more comprehensively called cardio-vascular-renal disease, presents many conditions demanding careful medical attention.

Here we find a disease in itself incurable, but of such a nature that, if diagnosed early in its course and suitable management instituted and carefully followed out, life may run its full course.

Its presence is indicated by a wide variety of subjective symptoms and physical signs of increased vascular tension, hypertrophy of the left ventricle and the urinary findings.

Whether Ludwig's theory of filtration in the glomeruli or the more favored theory of Bowman of selective secretion of the glomerular epithelium is accepted, the same conditions have to be met. We have a fibrosis, an increase of connective tissue, which impairs the functional activity and lessens the permeability in an organ so important in elimination, and, by reason of its vast blood supply, most intimately connected with the functional activity of the cardio-vascular system, upon which, in a large majority of cases, the prognosis depends.

First remove the cause if possible. This may be gout, syphilis, lead poisoning, over-eating and drinking, or over-exertion. Moderation in all things is a necessity. Sudden changes of weather are to be guarded against.

The diet should be varied. A strict milk diet is inadvisable as a routine. The excessive fluid would embarrass the heart, raise arterial tension and upset digestion, if used continuously in so protracted a disease. Strength would be lost and anaemia produced. Conservation of vital resistence is essential.

Meat is restricted because its end products are irritant to the kidney. The daily proteid intake should not exceed 100 gms. Vegetable proteid readily makes up 20-30 gms., milk and eggs 40-50 gms., leaving only 10-20 gms. to be taken as meat proteid. Meat extractives in soups with large amount of stock are especially to be avoided, since they contain in a more concentrated form those products most irritant to the kidney, and since they are eliminated with difficulty. Fresh vegetables and cereals are allowable in abundance.

The total fluid intake should be sufficient to keep the amount of urine up to one and one-half to two quarts per diem. The rigid restriction of Van

Noorden of not over one and one-half quarts is too arbitrary, and only necessary in event of untoward complications. In many cases a flushing-out day once a week may be advisable.

Salt is permissible in the ordinary amounts found in food, except when oedema is present, which is rare in interstitial nephritis except as a terminal event and is then due to cardiac insufficiency.

Kidney elimination is aided by the bowel and skin. Saline cathartics are used when necessary, but not as a routine measure. Baths and hot packs must be used guardedly, lest the blood pressure be unduly raised by stimulation of the patient during the early part of the bath, or be depleted and weakened by too frequent or prolonged action, and never in oedema due to broken compensation.

The integrity of the cardio-vascular system is of paramount importance, since the majority of deaths are due to cardiac insufficiency.

Hypertrophy of the heart and arterial hypertension are nature's methods of combating the lessened activity of the kidney by forcing blood through it under increased pressure.

Here the recent study of systolic, diastolic and pulse pressure are of great value. The diastolic pressure is raised in proportion to the severity of the kidney lesion. With this increase of diastolic pressure there is a proportionate increase of systolic and pulse pressure to meet the requirements of the circulation. To produce this, hypertrophy of the left ventricle occurs. When this hypertrophy has reached its physiological limit, the systolic pressure falls when myocardial degeneration takes place, but not in proportion, and we find a deficient pulse pressure.

The pulse pressure is relatively large when there is circulatory compensation for renal insufficiency. Thus we have an indicator of impending failing compensation.

Cardiac incompetency demands most active treatment. Rest must be absolute and if necessary enforced by opiates. Diet then should be concentrated and dry. The fluid intake limited to a minimum, but not sufficiently to interfere with free diuresis. The embarrassed circulation is relieved by venesection very quickly; if less urgent, by cathartics, as calomel and salines, elaterium, aloes, jalap, and others.

Digitalis is the drug of greatest efficacy. Here no other is comparable. Even though the blood pressure is still high, it is evidently not high enough to maintain circulatory equilibrium. Digitalis should be used with caution, however, and always stopped when oedema disappears. Given in full doses, it reaches its greatest efficiency in forty-eight hours. The first doses may be accompanied by strophanthus or strophanthin or caffeine, which act more quickly.

Baths here are of little value and very often harmful.

Arterial sclerosis with high blood pressure requires treatment when presenting untoward symptoms as vertigo and headache. Such treatment is of necessity only palliative.

Reduction of diet almost to starvation lowers pressure rapidly. Venesection and cathartics give quick temporary relief.

Electricity in the form of auto-condensation is only temporary in action and probably only useful from its in-

fluence on the nervous system, as are other sedatives.

The nitrite group is indicated in certain cases. The nitrite of sodium is preferred for continued use, but none of this group should be given regularly for more than six weeks without a week's intermission.

Care must be taken lest the pressure be so reduced that the balance be upset and the circulatory system fail to compensate the lessened kidney activity.

Threatened uraemia is treated by free and early purgation; elimination by the skin through hot packs, etc.; diuretics and an absolute milk diet. Bleeding may be resorted to when high blood pressure is present.

Other symptoms, as anaemia, should be relieved to conserve the strength.

To summarize:—Diet light and varied, with low proteid intake; promote elimination; exertion, mental and physical, in moderation, and preservation of the integrity of the cardio-vascular system. Other emergencies to be met as they arise.

DISCUSSION—DR. MORTON

I was very much pleased to note that Dr. Harriman uses so few drugs in the treatment of this condition. I believe the most important elements in the treatment consist of a proper diet, proper hygienic conditions and rest. The chief danger lies not so much in the condition of the kidneys, as in the high blood pressure and its effect on the heart and cerebral arteries. The Doctor has outlined the treatment for these conditions well. The high blood pressure may be looked upon as a compensatory condition, forcing more urine through the kidneys and thus excreting more waste. How much shall we strive to reduce this pressure? If the heart is doing its work properly, and there are no signs of impending cerebral hemorrhage, a blood pressure of 200 or 220 may be safely let alone. If, however, the heart begins to fail under the strain, we should strive to reduce the pressure.

I was interested in what Dr. Cannon had to say about the secretion of adrenalin being augmented by the excitation of the emotions. We all know that many of the American people lead the so-called strenuous life, one emotion following another. Have we here a cause of high arterial pressure and nephritis?

Some investigators claim to have found an increase of adrenalin in the blood of nephritics while others deny there being an increase. I wish Dr. Cannon would give his views on the subject.

Dr. Beecher:—There are three phases of chronic interstitial nephritis that are very interesting. One is the oedema that occurs. We know considerable about that. Digitalis there is a valuable drug as in other cardiac insufficencies. What I think we need so far as digitalis is concerned is more discrimination. Another phase is uremia. We know a very little about that. And the third one is hypertension, of which we know practically nothing. That is, we are not agreed on what little we think we know. There is one thing I wish to differ with Dr. Morton on, and that is that you cannot state any exact figure of safety for the blood pressure. 160 may be too high for one while 200 is not high enough to maintain circulation in another.

Dr. W. H. Lane:—Just a word regarding Dr. Beecher's remarks.

A woman between fifty and sixty who has interstitial nephritis suffered tremendous oedema. The legs were extremely swollen and the abdomen much distended with serum, which of course made her existence very unhappy. The patient had been tapped on several occasions with temporary relief only to be followed by a return of the same condition. Intensive treatment in the Brattleboro Memorial Hospital failed to relieve her of the extreme swelling and dyspnoea and discomfort. On the first day of August last there was drawn from the abdomen fourteen quarts of serum. As this was being withdrawn I filled twelve sterile containers, each holding 10 c. c. with fluid. They were sealed and put in a cool place. I began that day by injecting 10 c. c. of the fluid into the breast, and followed that treatment every four to six days up to the present. The results have been very encouraging. The

bloating has not returned; the patient is up and about, passes urine quite freely, and feels much better. I do not think that the Nephritis is changed, but I do know that the intense swelling which was the cause of so much discomfort and unhappiness has entirely disappeared. How long it will remain away I am sure I cannot say. This is called the Ascitic Autotherapy. I will not venture to explain the method of action but will quote from an editorial in a recent issue of the New York Medical Journal, "It may suffice to say that in all probability it is the result of reciprocal changes in the superficial tension of the ascitic fluid and blood serum."

Dr. Cannon:—I cannot give the reason for high arterial pressure in nephritis. It has been the subject of investigation by some of the best experts without resulting in the discovery of the reason for it. I know there has been testimony that there is an increase of adrenal secretion, but the observations were made without control and with a method incapable of giving exact results. Therefore, I do not credit the claims, and I think they have not been credited by physicians generally. The suggestion has been offered that the strenuous life may be associated with the oncoming of this disease, but I think at present the evidence is not convincing.

A STUDY OF FIFTY-FIVE CASES OF MALIGNANT DISEASE OF THE BREAST TREATED BY OPERATIONS.

JOHN BROOKS WHEELER, M.D.
Burlington, Vt.

Read before the Research Club of the University of Vermont, January 18th, 1916.

In addressing this club, many of whose members do not belong to my own profession, I feel some misgivings that my remarks may be not technical enough for the doctors and yet too technical for the rest of the audience. The latter fault seems to me the one most to be avoided and I therefore begin with the statement that by malignant disease is meant a new growth which infiltrates the surrounding tissues, appears in other organs or parts of the body than the one first affected and shows a tendency to recur after removal.

My records show a total of 142 breast operations, but microscopic examination was made in only 55 of the cases. As it seemed best to confine the paper to those cases in which the diagnosis had been made as certain as possible, I have considered only those 55. The first operation was performed in 1892 and the last in 1914.

When a malignant growth is removed, the most interesting question, practically, is whether the growth is going to recur and, if it should, whether the interval before recurrence is likely to be long enough and the relief of symptoms complete enough to make it worth the patient's while to undergo the operation. After a patient with a malignant growth of the breast has become enough impressed with the seriousness of her condition to seek medical advice, the duration of life is seldom more than two years and very rarely more than three years, if no operation is done; and short as this remnant of existence is, it is full of suffering. Thirty years ago post-operative recurrence of cancer of the breast was considered inevitable, so much so that the very rare cases in which there was no recurrence were thought to be mistakes in diagnosis. Operation was advised merely on the ground of prolonging life a little and making it a little more comfortable. Although we do not know much more about the cause of cancer than we did

then, our diagnosis and operative technique have improved enough to give to nearly one-half of our patients at least three years of post-operative life and to more than a quarter of them a practically complete cure.

There was a time, after the adoption of the modern radical operation, when it was thought that all cases in which there had been no recurrence for three years after operation, were permanently cured, but this has been disproved as time has gone on. It is now well known that it occasionally happens that a patient who has undergone a radical operation for cancer, is again attacked by the disease after a much longer interval than three years, but such cases are rare and in many of them there is a question whether there is an actual recurrence, or an entirely fresh onset of the disease.

In the list of 55 cases here reported there are two whose fate it has been impossible to ascertain. Three other patients, now in good health, underwent operation within the last three years and therefore are not to be considered with reference to end results. After deducting these five, we have 50 cases in which to consider the final outcome, a small number to draw conclusions from, but perhaps large enough to repay study.

Of these 50 patients, 23, or 46 per cent, were alive and well three years after operation; 27, or 54 per cent, died within the three-year limit, all from recurrence of the disease except two and in one of these the cause of death was given as "Arterio-sclerosis and Brain Disease," which may have been an intracranial recurrence. The other patient died of pulmonary embolism ten days after operation. Three patients died between three and five years after operation and of these, two died of malignant disease and one of pneumonia. Two patients died within five and ten years after operation; one of malignant disease and one of gall-stones.

Thirty of the fifty patients were operated on more than ten years ago and of these thirty, eleven or 36 per cent, lived ten years or more after operation. One lived seventeen years and died of apoplexy and another lived twelve years and died of pneumonia. The other nine are alive and well, except that in one case a small nodule has twice formed in the skin and has been removed each time—once seven and one-half years and once ten and one-half years after operation. This is the only trace of recurrence in any of them.

In seven of the whole fifty cases, the microscopic diagnosis was sarcoma. In all the others cancer was diagnosed. There is a striking difference in the mortality of the two groups, in favor of sarcoma. Of the seven cases, four are alive and well more than ten years after operation; (one of these had recurrence and a second operation within the first year), while three have died, one two years after operation, of multiple cutaneous recurrence and the others, one 26 months after and the other three and three-fourth years after operation, the first of mediastinal and the second of local recurrence. It thus appears that of these seven sarcomas, 57 per cent have lived more than ten years after operation, while of the three cases in which recurrence took place one lived nearly four years after operation. The proportion of sarcoma to cancer, 12 7-10 per cent, is an extraordinary large one, the usual proportion being not over two or three per cent.

It will be seen from the above figures that twenty-eight of the fifty patients died of recurrence of the disease for which they underwent operation, that twenty-five of these deaths took place within three years of the date of operation, two between three and five years and one eight years after such date, while none died of recurrence who survived the operation ten years. So far as conclusions can be drawn from such small numbers, they confirm what has already been said, namely, that the great majority of recurrences take place within the first three years after operation and that while a patient cannot be considered as certainly cured at the end of three years, the chance of recurrence is small and diminishes as time goes on.

Cases in which recurrences are reported more than ten years after the operation, are so rare that it is probable, as has already been said, that there has been a fresh onset of the disease, rather than a recurrence of the original trouble.

Points for consideration no less important than the question of recurrence are the mortality of the operation itself, and the condition in which it leaves the patient after the wound is healed. Considering the extensiveness of the operation, its mortality rate is surprisingly low and the disability which it causes is surprisingly little. One case in my list died ten days after the operation, of pulmonary embolism, and this is the only case in which death was in any way attributable to the operation. Such a mortality rate, 1 8-10 per cent, does not seem large for an operation in which the whole breast, both pectoral muscles and the entire axillary contents are cleanly removed, leaving the largest operative wound which is ever made in the human body, except that of hip joint amputation. And yet 1 8-10 per cent is above the average mortality rate. Rodman of Philadelphia has collected statistics of 2133 operations performed by 21 American surgeons with a mortality rate of less than one per cent. In so small a list as this of mine, a single case makes a good deal of difference in the percentage and I can only hope that if my list had included say several hundred cases, the next fatality would have been remote enough to have brought my mortality rate to a figure nearer to that of Rodman's list. As regards the disability which might naturally be supposed to result from such an extensive operation, the patients in my list have usually been able to raise the hand to the back of the head in two weeks and in two months to do light work of all sorts. Later than that most of them say that except for slight weakness and slightly limited motion, the arm is as good as ever, though many of them find such work as sweeping and washing difficult.

One of the few things that we have succeeded in finding out about malignant growths, is that in their beginning they are local troubles. A cancerous lump in the breast is not a manifestation of a general disease, involving all the organs, but a focus from which such disease may spread and will spread unless the focus is promptly removed. It follows from this that the earlier and the more thoroughly the malignant growth is removed, the better is the chance that the patient will never hear from it again. This is one of the most firmly established principles in the operative treatment of malignant growths, though at first sight it is not borne out

by the series of cases under consideration. Twenty-seven of them were operated on within a year of the time when the disease was first noticed and in these the average duration of life after operation was five years, while in the other twenty-three, in which the disease was noticed anywhere from one to ten years before operation, the average duration of life was five and nine-tenths years. One explanation of this showing is that it is often impossible to tell just when the growth really began. The time when the disease is first noticed is often long after the real date of its beginning. Many a patient is sure that a tumor which must have been growing a year or more, is not more than a month old, because nothing brought it to her notice before that time. On the other hand, many breast tumors are originally benign, remain so for many years and finally become malignant; so that a tumor may have existed 20 or 30 years, while its malignancy dates back only a few months. Whatever the explanation may be of the failure of these cases to conform to the rule that a malignant growth should be removed as early as possible, their number is too small to be used as an argument against such a well established maxim.

Age.—In the matter of age, the patients in my list departed only slightly from the general rule. The greatest number of cancers of the breast usually occur in the fifth and sixth decades of life, when the gland undergoes the most active retrograde metamorphosis. In my list the seventh decade takes the lead, there being sixteen patients from 61 to 70 years old, inclusive, thirteen from 51 to 60, nine from 41 to 50, four from 31 to 40, four above 70 and two from 20 to 30. These are the cancers. The seven sarcomas occurred in much younger patients, four of them being between 20 and 30 years of age (and these were the cases which did not recur) and one each between 30 and 40, 40 and 50, and 50 and 60. These last three all had recurrences. The youngest sarcoma patient was 20 and the oldest 51, while the youngest cancer patient was 28 and the oldest 76. The comparative ages of these two groups are in accordance with the well known fact that, while cancer or sarcoma may occur at almost any age, cancer is, as a rule, a disease of advanced life and sarcoma of youth.

Sex.—The rudimentary male breast is seldom the seat of malignant disease, nevertheless one of these patients was a man, 1 8-10 percent of the total. The ordinary ratio is about 1 per cent.

Social Condition.—Forty-four of the female patients were married, one was widowed and ten were single, including the four young women with sarcoma, in whom there was no recurrence of the disease.

It is worth while, perhaps, to consider some of the symptoms which are commonly supposed to be associated with malignant disease, and to see to what extent they appear in connection with these cases.

Pain.—In any diseased condition, the presence or absence of pain naturally assumes a good deal of importance in the patient's mind, and there is a prevailing impression that, in case of tumors of the breast, malignant disease is always associated with pain. Unfortunately this is not so at the beginning of the trouble. If it were, there would not be so many cases in which operation is delayed until the last chance of help

is gone. The suffering from malignant disease in its later stages is great, but at the beginning and in many cases for a long time afterwards, pain is almost, if not completely absent. A very common experience for the surgeon, is to hear the patient say, "Of course there is nothing of the nature of cancer about this thing, for it has never given me a particle of pain."

One-third of my cases had had no pain at all when they consulted me and in many of the other two-thirds the pain was very slight. This shows how far from correct is the idea of the invariable association of pain with malignant disease.

Retracted Nipple.—Another symptom which patients, and a good many physicians, are apt to consider essential to the diagnosis of malignant disease is retraction of the nipple. This symptom actually occurs in only about one-half of all cases. It is caused by a contraction of the tumor after the central part of it has broken down, the result of which is a pulling upon the fibrous connections between the nipple and the deeper parts of the breast and a consequent retraction of the nipple. As this process takes time, retraction is not usually noticed in the earlier stages of the disease, nor is it noticed at all in such cases as do not happen to involve the fibrous connections above referred to. When retraction is present, it is a very strong, though not absolutely certain indication of malignancy; but its absence does not necessarily indicate the contrary, as nearly half of the malignant tumors of the breast do not show it. My series follows the general rule very closely. Retraction was present in twenty-seven cases, absent in twenty-six, not recorded in two.

Glandular Enlargement. — Enlargement of the glands under the arm, showing that the disease had extended to the neighboring lymph nodes, was present in 48 cases, or 87 per cent of the total. This also is in accordance with the usual conditions. It is another of the unfortunate circumstances connected with malignant growths of the breast, that most of them are not noticed, or not brought to the surgeon's notice until the neighboring lymph glands are more or less involved. The chances for permanent cure by operation are much better before such involvement has taken place. It is not always easy to detect the enlarged glands by palpation. In eighteen cases they could not be felt when I examined the patient, although the operation showed them to be present.

Adherent Skin.—In 36 1-2 per cent of my cases, the tumor was adherent to the skin over it. This is an unfavorable complication, as the disease spreads rapidly and obstinately in the skin. In such cases it is necessary to remove a large surrounding area of sound skin, in order to give the patient the best chance for cure.

The extent to which these symptoms appeared in the eleven cases which showed no recurrence, is worth noting. In only three of them was the skin adherent. The nipple was retracted in four cases, pain was present in six cases, absent in five. In six cases the disease had lasted less than a year before operation; in five it had lasted from two to eight years. The axillary glands were enlarged in eight cases and not enlarged in three.

As regards the social condition and age of the number of this group, six of them were married and five were single; four of them (the four sarcomas) were from

20 to 26 years of age while the cancer cases were considerably older; three were between 41 and 50, three between 51 and 60, and one between 61 and 70.

It will thus be seen that in these eleven patients who may fairly be said to have been cured by the operation, the pre-operative symptoms of pain, adhesion of skin, retraction of nipple and involvement of axillary glands were decidedly less prevalent than among the other patients. If any conclusion can be drawn from such a small number of cases, it would seem that the less pronounced these symptoms are in a given case, the better is the chance of permanent cure. Such conclusion is reasonable enough, as the presence of all these symptoms in a marked degree would indicate that the disease had taken a firm hold on the patient.

In summing up this paper, the point on which I want to lay the most stress is the difference between the results which it shows and those which were obtained a generation ago. Instead of a recurrence rate of 100 per cent within three years, there is a freedom from recurrence for three years in 46 1-2 per cent and for ten years and more in 36 1-2 per cent. Even if the four sarcomas were left out of this last group, there are 27 per cent of the cancers which were free from recurrence. These figures do not differ greatly from the statistics of much larger numbers of cases to be found in the literature of the subject and they show in the same way as the others that a patient who has no recurrence within the first three years after operation, stands only one chance in ten of any recurrence at all, and that that chance vanishes at the end of ten years, leaving the patient in practical safety.

This percentage of cures, although not a brilliant one as compared with the results of some other surgical operations, is nevertheless much better than the results of any other form of treatment which has yet been tried for malignant tumors of the breast. If the operation were done earlier in the course of the disease than it usually is, the result would be correspondingly improved. The time may come when the results of X-ray treatment will rival if not surpass those of operation, but as yet the X-ray has not shown enough penetrating power to destroy deep-seated malignancy. It is, however, a valuable aid in post-operative treatment and undoubtedy has considerable effect in preventing recurrence in the skin.

A HOPEFUL WORD IN POLIOMYELITIS.

Dr. S. J. Meltzer of the Rockefeller Institute, New York, suggested a few days ago that in cases of epidemic Acute Poliomyelitis there seems to be much that can be said in favor of intraspinal injections of adrenalin in 15 or 20-drop doses.

This is the first really definite and hopeful treatment that has been as yet advised.

Hexamethyenamine, which was at one time so strongly urged, seems to have no especial influence on the disease.

The adrenalin should be used of course as early as possible and given as frequently as is desirable.

There seem to be no possible ill-effects

CHRONIC RHINITIS

(*Continued from page 172*)

The alternating stenosis and hypertrophic forms occur in early adult life, and sinus disease as a rule occurs much later, the cases that I have seen being over thirty-five years of age.

In examining a case objectively, get a good view of the septum on either side, noting its shape, and thickness of the lower and middle turbinates and their relation to the lateral wall, the lower and middle meatus, and a view of the posterior end of the lower turbinate. An essential point of an examination of the nose is the use of the probe, for without it one will make many a mistake. The surface of the probe laid on the lower turbinate will indicate whether it is simply turgescent or is actually thickened, and the masses that may appear in the region of the middle meatus and turbinate must be felt, to determine whether they are bony structures or soft polypi.

Oftentimes a solution of cocaine and adrenalin should be wiped over the surface of the mucous membrane to note their condition after this has taken effect. This will show whether one is dealing with simple turgescence or true hypertrophy. If pus appears at the middle meatus, it must come from one of three sources, either the maxillary antrum, the frontal sinus, or the anterior ethmoidal cells. Transillumination of the maxillary antra will show pus if present in any quantity. The usual directions are to hold the light in the midline of the mouth with the lips closed, and this gives a good comparison between the two sides. but full better illumination is secured by holding the light inside the cheek opposite the last molar tooth on each side and comparing the transillumination. However, both these methods should be used during the examination. Transillumination, however, of the frontal sinus is very uncertain, whereas the X-ray is a fairly certain means of diagnosis when considered in connection with the other symptoms. The history of acute sinus infection over the eyes, points of tenderness, presence of headache, etc., all enter into the diagnosis. The whole case must be examined with a view of determining which of the three causes of inflammation, or which combination of causes has produced the conditions, whether microbic, bio-chemic or due to deformities.

As to the treatment, we will take the most advanced case first. Given a diagnosis of sinus disease, the sinus containing pus or polypoid tissue or both, good treatment demands that it be drained. This does not mean that the various sinuses must be opened and curetted. Many a case of pus in the antrum of Highmore is not only relieved but apparently cured for all time, at least to such an extent that there are no signs or objective symptoms, by simply piercing the nasal wall of the sinus with a Miles' trocar, and washing it out two or three times. This I have had occur repeatedly in my practice. If this fails, of course a more radical operation is needed. Pus arising from disease of either the frontal or ethmoidal cells, is often relieved by a minor operation in the region of the middle turbinate. This may be correction of the deviated septum, which bears on the middle turbinate, or a turbinate which is hypertro-

phied or fallen down so closely upon the lateral wall of the nose that there is a partial obstruction, and I have relieved several cases by simple amputation of the anterior end of the middle turbinate. Other times, it is necessary to introduce the curette, and simply break down the anterior ethmoidal cells, which opens up sufficient space for the other ethmoids and the frontal sinus to discharge. Of course, if this fails, a radical operation according to one of the several methods, must be employed. If in these cases, enough of the ciliated epithelium is intact the discharge will be carried toward the free opening; if, however, these are destroyed the operation must be carried to such an extent that the sinuses can drain by gravity. I feel certain, though, that all of these suppurating cases should be given the benefit of the minor operation, unless one has excellent reason to believe in advance that it will prove a failure.

The treatment of the hypertrophic form of rhinitis is debatable. There are some who consider the lower turbinate holy tissue, consecrated to the Goddess Venus or some other deity, and under no conditions whatever must it be profaned by cold steel or human hands. When this tissue becomes hypertrophied in spite of the best of treatment, or as a result of neglect, it becomes of itself an offending member, interfering with free breathing and interfering with a free drainage of the nose, and I believe its presence is one of the causes which result later in sinus disease. This condition is not so very common, but it is by no means rare. Those who do not subscribe to the cutting of the turbinates compromise by resorting to the cautery. Why this is so, I cannot understand. The cautery reduces the bulk of this tissue by process of destruction and contraction and is absolutely successful. I have not one word to say against its use in the hands of those who prefer it. But to me a judicious use of the scissors here is more exact in its action and is based on sounder surgical principles. A careful view should be taken of the turbinate before cocaine and adrenalin are applied. After their application there will be more or less shrinking of the tissues. The operator must then proceed with the original condition in mind, and more or less of the soft tissues of the lower turbinate may be trimmed away, thus affording the patient a free breathway.

Please do not mistake me. I am not advocating turbinectomies. I never performed that operation in my life. I can imagine conditions perhaps where it would be justifiable, but I do not know. What I am speaking of is this: that when one or both lower turbinates are too large, too fat, too big, for the nostril in which they are located, why should they be allowed to retain their size? Some of my most grateful patients are those upon whom I performed this operation. The tissue removed at the time and laid on the table is often no larger than a piece of heavy hardware twine an inch long. Yet this proves to be sufficient redundant tissue to completely shut off the breathing on one side or the other. Of course here, I do not mean that the turbinate should be cut when the septum is really what is shutting off the nose, but sometimes it is the turbinates and not the septum.

The treatment of alternating stenosis is the most debatable of all the nasal diseases. On the one hand is the en-

thusiastic surgeon; on the other hand, the conservative internist. The surgeon apparently considers that the deviations of the septum or the abnormalities of the turbinates are responsible, and pages have been written to support this theory, stress being laid upon the deflections of currents of air and the turgescence caused by this. On the other hand, the internist believes that these have very little to do with the case, and reasons from the viewpoint of bacteriology, immunity, physiology, etc. It seems to me as though the internist had the best of the argument, if we were to adopt either extreme. Whether this bio-chemic theory of Wright's is rational or not, it must be assumed, I think, that there is some third factor, and that this must be dealt with in treating these cases. Articles are appearing on asthma and vasomotor rhinitis, dividing them into seasonal and perennial. The seasonable group, of course, means that which we have roughly termed hay-fever, due to the ingestion of the pollen from goldenrod, pigweed, etc. In the perennial, investigators are still searching for the causes, of which a few have been found, as for instance, in some cases, asthma from eggs. Goodale of Boston, in the issue of the Boston Medical and Surgical Journal of February 17, has published some very interesting preliminary notes concerning bacterial proteids.

You may have a maxillary ridge, impinging upon a lower turbinate; you may have a deflection lying upon the middle turbinate, or any one of the various deformities of the septum which do actually interfere with both the ventilation and drainage of the nasal passages. In addition to this, during the physiological turgescence of the turbinates, the membranes may come in contact, and an irritation is set up which results in chronic inflammation. These cases, of course, demand surgical correction, and in wisely selected cases of alternating stenosis, the sub-mucous resection does a tremendous amount of good. If it is true that the deformities of the septum become more pronounced as time goes on, due to chronic inflammation, then its removal becomes more important as a prophylactic measure to break the vicious circle. As one talks with the rhinologists, however, he often hears this remark, or something to this effect: "I am not resecting the septum as often as I used to," and certainly every one of us who have performed this operation very often, has had a certain percentage of disappointments, even in cases where we were certain that benefit would result.

On the other hand, we have seen cases where it seemed hardly possible that the septum could be the cause of the condition, and somewhat against our best judgment, but impelled by the necessity of doing something, we have resected the septum and perfectly satisfactory relief has followed. What is the reason? It seems to me that we have to deal with two groups of cases. In one group, the bio-chemic reaction is very slight, the patient endures pronounced deformities with no discomfort, and on account of these conditions, the correction is not followed by relief. In the other group of cases, the bio-chemic reaction is active, any slight irritation is enough to provoke an attack, and the slightest surgical relief is followed by marvelous results. It is extremely difficult and often impossible, to tell beforehand which condition you are dealing with. If there

is free space between the septum and the adjoining tissues, so free that during the attacks of turgescence the tissues do not come in contact—in other words, if there is no interference with either the ventilation or the drainage of any part of the nose, it does not seem to me that it is necessary to resect the septum. Of course, it does no particular harm to do it unnecessarily, except for the reaction on the part of the patient toward the operator, if he receives no benefit.

These deflections which bear upon the region of the anterior end of the middle meatus, it seems to me, even when slight, are doubly important, because here is the space into which the majority of sinuses drain, and this space must be kept clear. If the septum impinges at all upon the middle turbinate, I nearly always risk depending upon that alone to give free space, but, as referred to elsewhere, I have found it necessary sometimes to amputate the anterior end of the middle turbinate, or curet under cocaine the anterior ethmoidal cells, in order to get sufficient ventilation and drainage.

If the case is, after sufficient study, considered to be non-surgical, the question arises, what may we do to relieve them? Within the next few years, I am sure we will learn a great deal about the importance of diet in these conditions. It is too early yet to say very much about it. The whole relation of this condition to the general system is now under investigation.

So far as local treatment is concerned, I have followed several cases over a number of years, and have noticed this, that the more strongly the sprays are medicated, the more inclination there is as time goes on for actual hypertrophy of glands and submucosa to follow. In other words, menthol and the allied drugs, carbolic acid, the pungent oils, all tend to set up a mild chronic inflammation which results in a deposit of connective tissue and thickening of the sub-mucosa and an increase of glandular cells, so that although at the moment the relief from any one of these sprays is very gratifying, the end result is not good. You have had investigations, I believe, in your own laboratories here during the epidemic of infantile paralysis which show that the nose contains fewer bacteria when washed with simple saline solution than when any of the so-called antiseptics are used, and on theoretical grounds I can well believe this to be true. It is ridiculous to speak of antiseptics in the nose. If an efficient one is used, the mucous membrane will be destroyed along with the bacteria, and if an inefficient one is used, it does no good. So then a nasal spray or irrigation must be looked upon simply as a cleansing affair, and not one of medication. No doubt douching of the nostrils with saline solution or a solution containing a bit of aromatics, so as to be pleasing to use, has its value in keeping these spaces cleansed of their discharge, but at the present time our measures to prevent the recurrence of attacks of nasal stenosis are very inefficient, aside from what we can do surgically, and what we can do surgically is often quite disappointing. The simple reason is that there is some factor concerned in rhinitis which is as yet not fully understood.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

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Rutland, Vt., July, 1916.

Editorials

MEMBERSHIP IN THE STATE SOCIETY

The Annual Address of President Townsend, which appeared in the January issue of Vermont Medicine, contained some suggestions on which we promised to comment. Always timely, the consideration of the Address has now become also convenient.

In 1913, the Committee *On Decrease in the Membership in the State Society* made its report to the House of Delegates. Some instructive facts were brought out in this report. In 1901, when the *American Medical Association* was remodeled on its present basis, the membership of the State Society numbered 210. The next year, when the State Society was itself established on the basis advised by the A. M. A., the number mounted to 350, increasing in 1903 to 407 and in 1904 to 408, the high-water mark being attained in 1907, when it reached the number of 449. The list however contained many delinquent members who at the 1907 meeting at St. Johnsbury were dropped from the rolls for non-payment of dues. These delinquents were 83 in number, and in 1908 at the Rutland meeting the members of the Society numbered 373, while in 1912 a continuing delinquency brought the roll of members down to 306. The chairman of the Committee ascribed this decrease in numbers largely to the negligence of the secretaries of the county societies, but it is easy to discover other contributory causes. It was in 1910 that the dues were increased for the purpose of raising a medico-legal fund, and perhaps this increase in the dues, added to the difficulty of state travel, personal inertia and lack of interest in the meetings, combined to reduce the membership to the 1912 point of 306. Since that time, however, the membership has increased until the list published in the April issue of this journal contains 373 names and is now 388.

But the present list includes only about 56 per cent of the physicians in the State, the A. M. A. directory for 1916 containing the names of 667 practitioners in Vermont as compared with 679 in 1912. Of these, perhaps 10 per cent are not engaged in active practice, and another 10 per cent are engaged in too active practice, finding their advan-

tage in contract and other irregular forms of practice. That leaves still about 25 per cent who are presumably eligible for membership, but who are not members.

We have calculated the proportion of the members of the six New England State Societies as compared with those engaged in practice, and we discover that much the same condition of affairs prevails throughout this larger field. In Massachusetts, the proportion is 61 per cent, Connecticut 57 per cent, Rhode Island 55 per cent, and Maine 47 per cent. New Hampshire is the banner State of New England, with 70 per cent of physicians enrolled. New York has 52 per cent. We have too high an opinion of the personnel of the profession to believe that 30-53 per cent of its members are unable to meet the requirements of the County Societies. At least 500 physicians in Vermont should be enrolled in the State Society. Why aren't they?

It is largely, we believe, on account of personal inertia. A little personal work would doubtless bring these men, whom we need and who need us, into our ranks. Not much inducement or argument should be necessary. Certainly the annual program is rich enough and varied enough to tempt any appetite. Membership in the County Society has its unquestioned value as being the door that leads into the National Association, with which every reputable physician should be proud to be identified. This is a case of receiving honor, not of conferring it. The time has been when a physician's activities lay strictly within the narrow range of his personal practice. Things have changed, and medicine is now so intimately identified with the larger questions of the prevention of disease, sanitation and communal Medicine, that the round of daily calls and personal service has become merely a portion of the broader field. Without professional communication, without medical journals, one cannot remain in intimate touch with Medicine as a whole. The impetus imparted by the medical school must be sustained by these means or it soon abates, and the science and art of Medicine degenerates into mere routine. These are duties which one owes to himself as well as to his patients.

In a paper prepared for the Society under date of December 1, 1913, the Secretary remarked, "Conditions are so shaping themselves that every physician desiring recognition beyond the borders of his own state must be vouched for by his State Society, and good standing in the State Society is *prima facie* evidence of regularity and honest practice." Such membership is an indication of professional standing and places one upon terms of equality with physicians everywhere. Without such a guaranty one must expect to encounter an initial suspicion of irregularity and to become involved in explanations which are awkward and unsatisfactory, since there is really no valid reason in many cases for such neglect.

Membership in the County and State Societies should be desirable not only as an advantage but as an honor. It is a distinction that should not be too lavishly bestowed and which should be entirely withheld from unworthy or uncertain aspirants, since otherwise the good fame of the State Society will suffer. It is easier to keep a bad man out than to expel him. The Board of Examiners for State License has the initial decision,

since the license is preliminary to practice and practice is necessary for eligibility to the County Society. With this Board we can find no fault. We are of the opinion that the Examiners for License are fully alive to the requirements of their position, although politics, in Vermont as elsewhere, imposes strange conditions upon their activities. These conditions they and we are compelled to obey if we cannot wholly respect them. But the censorship at least we can control and here seems to be the only place where an effective means presents itself to supervise admission into the County Societies. The censorship is the port of entry and here there should be a rigid inspection. In Massachusetts and elsewhere each applicant for membership has to pass a severe special examination by the censors, and even then some undesirable men slip through. We do not want members who will be a perennial disgrace. We have reason to suspect the censors of our County Societies by no means realize the responsibilities of their office. Their report should only be made after careful investigation and conscientious reflection. They are required to vouch for the candidate or to reject him, and they themselves should undergo censure if they perform their duties hastily and perfunctorily. Nor should they decide the case from what the lawyers call a preponderance of evidence,—a single blot should disqualify an applicant. We need men in the Society but we are unwilling to pay too much for them. It might be well to require the county censors to submit to the Council or to the House of Delegates a detailed and signed report on each applicant for membership in order that they may be be brought to realize their responsibility.

But members we need. The 150 desirable men in the State who are not on our list, should be there. They have it in their power to confer a benefit on the State organization in return for much greater benefits that they will themselves receive. Besides which, they should be eager to identify themselves with the larger interests of medicine, an obligation that they cannot evade profitably to their own interests. It seems as if a representation of these and other facts which might be dwelt upon should be sufficient to impress on the minds of these gentlemen the desirability of taking the step that we have considered.

DR. BULKLEY ON CANCER

That very amiable and guileless gentleman, Dr. Duncan Bulkley, always conservative in medicine, has at last become reactionary and is opposing early operation, or, indeed, operation at all, in cancer. When a physician of Dr. Bulkley's standing becomes a reactionist, he often becomes also the center of reaction, and if a man may be rightly held responsible for the consequences of his acts, he should be sure that he is right before becoming the advocate of obstruction. This Dr. Bulkley must have considered and he has apparently no misgivings in coming out as the open and strenuous advocate of what may be called the dietetic or tomato theory of cancer. He offers his recent book on *Cancer, its Cause and Treatment* to "those who are threatened with malignant disease," which is to recommend a bowl of warm pap to a man "threatened" with a mad bull, whereas common sense would suggest killing the bull be-

fore he became dangerous. A general, like Captain Fluellen, may have his head filled with harmless or perverse theories of warfare drawn from the operations of the Grecian phalanx and the Roman legion, but he would hardly be selected for that reason to withstand the German assaults before Verdun or lead a fleet of dreadnoughts into battle, and the dietetic "treatment" of cancer cannot be held to rest on juster grounds. In his book he contends that "dietetic and medical treatment has proved by experience to be able to prevent the development of early threatening lesions into those of a malignant character, and should never be neglected when there is the slightest suspicion of cancer." But cancer is not a threat alone or a mere slight suspicion,—it is a deadly attack. However, when it has developed into a pronounced type an early operation is advised. Hardly that. Dr. Bulkley's words are: "It is PERHAPS (capitals mine, [L. D. B.] for emphasis) wise with our present knowledge, to attempt to remove the offending mass while there is some hope or prospect of benefit, and I am personally OCCASIONALLY advising this in proper cases." This is not reasoning but delusion. How will Dr. Bulkley answer to those hopeless patients whom he has sustained with false hope until the time of hope has passed?

TUBERCULOSIS IN INFANCY

In Dr. Goodall's excellent paper on this subject in the present issue of VERMONT MEDICINE, we find an argument of value in favor of the medical supervision of school children, which we discussed in May. With 78 per cent of the children proved by the usual tests to present defects of some kind, and 90 per cent reacting to the Pirquet test, it seems like a miracle that any of them should grow up to sane and healthy manhood and womanhood, as in fact many of them do. The human race is struggling under a heavy handicap. Burdened and shackled, it is panting toward the goal. And how easy to remove the load and the fetters! Sanitation, suitable infant feeding, the correction of defects in school children, the sterilization of the unfit, and the early passage and rigid enforcement of the laws demanded by preventive medicine for the eradication of infectious disease, and—lo! the millenium! At least so far as the millenium may be regarded as a material achievement. And all these steps will certainly be taken, since they are not only necessary but imperative.

HARRISON ANTI-NARCOTIC LAW

United States Court decides that the issuing or filling of a prescription for an unnecessarily large amount of habit-forming drugs is a violation of the law.

The United States District Court for the Northern District of New York has decided that it was the purpose of Congress in passing the Harrison anti-narcotic law to limit the quantity of habit-forming drugs that may be prescribed by a physician or sold on a physician's prescription to such an amount as is necessary to meet the needs of the patient for whom the prescription is given. The court holds that a prescription for an unusually large quantity of any of the drugs enumerated in the law must show the reason why the large quantity is required, and, if it does not, both the physician who writes the prescription and the druggist who fills it are guilty of violating the law.

Judge Ray, in the opinion, said that he was unable to agree with the decision in United States v. Friedman (P. H. R., Dec. 24, 1915, p. 3777), which held that the law did not limit the amount of habit-forming drugs which may be prescribed by a physician (*Public Health Reports*, May 12, 1916).

Progress in Medical Science

TUBERCULOSIS IN CHILDREN

That the great majority of people are infected with tuberculosis during childhood is clearly shown by the skin test. Von Pirquet applied the test which bears his name to 1,407 children attending the clinics in Vienna. 1,134 of these were clinically non-tuberculous while the balance were either obviously tuberculous or open to strong suspicion. The following table gives the percentages of positive reactions. The first column of percentages shows the positive reactions among those who were clinically non-tuberculous, the second column shows the positive reactions among all the children taken together.

Age	Percent	Percent
1	0	5
2	0	25
3	15	37
4	15	40
5	17	42
6	34	57
7	35	55
8	42	62
9	47	64
10	57	72
11	72	82
12	68	80
13	64	72
14	91	93

Similar results have been obtained in other large cities. Thorough autopsies have revealed tubercular lesions in substantially the same proportions of cases.

During the first year of life no immunity or power of resistance has been acquired and tubercular infection always means more or less active disease. Thus, of the five percent that reacted in the first year of life over 4½ percent were manifestly diseased, while the balance had enlarged glands or other clinical evidence of disease. In the second year 25 percent reacted and 20 percent were manifestly diseased. There were no cases in either year that reacted that were clinically free from tuberculosis.

From the third year on, the proportion of latent cases gradually increased and the proportion of those manifestly ill with tuberculosis gradually decreased.

Children are more easily infected with tuberculosis than are adults, first because the mucous membranes are more delicate and therefore more easily penetrated by the bacilli, and secondly because they are more often exposed to infection and to infection of a higher intensity.

The infection that arises through drinking milk from tuberculous cattle amounts to from 2 percent to 10 percent according to various investigators. The bovine type of bacilli are much more commonly found in children than in adults. These facts clearly reveal the wisdom of sanitary control over our milk supply, and the isolation of tuberculous cattle.

It has been shown that tubercle bacilli, like dust, are thickest in the air nearest the floor, much thicker in the air within three feet of the floor than in the higher strata. It is precisely in this lower layer of air that the infant and the young run-about child lives and plays. The adult carries his head higher and inhales fewer bacilli.

The spray that flies from the mouth during coughing often carries tubercle bacilli. This droplet infection may contaminate the front of the patient's clothes or the bedding. The danger of infection in this way grows rapidly less as the distance from the patient increases. It is serious within three or four feet. Children in the lap or on the bed of a consumptive are exposed to infection far more than are their adult companions.

Infection during the early years of life generally means another open case of tuberculosis in the family or a milk infection.

Two percent of healthy people report a tuberculosis parent. Twenty-seven percent of those having tuberculosis report a tuberculous parent or other member of the immediate family.

For these reasons a strong effort should be made to separate children from tuberculous relatives. When a man and his wife and three or more children live in three or four rooms, as so often happens, how can infection possibly be avoided?

Not only is infection of the children a certainty in such circumstances but the burden of support of the entire family rests upon the public funds or the private purse of those charitably inclined.

For the many such cases that are to be found in our state, suitable hospitals should be established. These should be well equipped and generously operated. Any case of tuberculosis should be admissible no matter what the form or stage.

The experience in other states shows that such hospitals would be freely used by poor consumptives. The few cases that were unwilling to go to such hospitals but who could not remain at home with safety to the family, should be made to go as is already being done in New York and elsewhere. Such cases have proved to be rare. As a rule cases needing such an opportunity welcome it.

The benefit of such an arrangement would be great as far as the patients themselves were concerned. For the children of the family the benefit of removing a source of contagion would be almost incalculable. Society at large would benefit through the decreased number of infections. And finally, the cost of caring for our indigent consumptives would be materially lessened in the long run, first because the number of cases would become less and secondly because in many instances the family itself would be self supporting as soon as the care of an invalid was removed and the adult members were thus enabled to devote their energies to productive labor.

H. S. G.

OBSTETRICS

A recent article in the *Journal of Obstetrics,* by C. C. Norris, gives a most admirable and comprehensive study of the effect of pregnancy upon tuberculous women. Sixty-eight cases are reported in detail and these conclusions are drawn from their study.

1. The combination of pregnancy and pulmonary tuberculosis is a common one.

2. Pulmonary tuberculosis exerts little or no influence against conception.

3. Pulmonary T. B. exerts but little influence on the course of pregnancy, and except in the advanced stages exerts little or no influence toward causing abortion, miscarriage, or premature labor.

4. Twenty per cent of mild cases, and seventy per cent of advanced cases exhibit exacerbations during pregnancy or the puerperium.

5. Marriage is worse for the T. B. women than man because of the dangers incident to pregnancy.

6. Unless the pulmonary lesions have healed, T. B. women should not marry.

7. Prior to the fifth month of pregnancy, the uterus should be emptied if the disease manifests any evidence of becoming active. Sterilization is rarely justifiable.

8. After the fifth month, treat expectantly. Labor should be made as easy as possible. Induction of labor two weeks before the expected time is often advisable. Forceps or version is usually indicated.

9. Infants should never nurse from tuberculous mothers.

10. In the great majority of cases tuberculosis precedes the pregnancy.

* * *

In this same number of the Journal, A. A. Hussey has an article of unusual interest to the general practitioner. It refers to the repair of old lacerations of the perineum during a subsequent puerperium. Hussey reviews a number of case histories where this method had been followed and arrives at these conclusions: The cervix is best left alone unless causing hemorrhage. The scar of the old laceration is dissected out and the repair proceeded with as if in an interval operation. The time for this repair may be from one to fifteen days post partum. The essentials are given as: The patient shall have had an uncomplicated labor and one conducted under aseptic conditions. The puerperium up to the time of labor shall have been normal. The patient must have the same degree of operative skill and care that she would get in the gynecological operating room.

* * *

A. Brant (*Boston Med. and Surg. Jour.*), says that no one method of anesthesia is safe in all stages of labor. For long, primiparous labors the following sequence would seem to be best: The use of bromides, chloral, or scopalamine in the first stage; the administration

of these drugs to be stopped in time so that their effects shall have worn off by the time of delivery; nitrous oxide administration during pains, ether for delivery.

The majority of us in the country, however, will probably continue to use chloroform, in small dosage, during the acme of second-stage pains. While aware of the dangers of after effects upon the liver from prolonged chloroform administration, the fact that pregnancy seems to confer some immunity to the more marked, and immediate dangers of the drug, together with its simplicity of administration, its rapid action, and its availibility still make it the drug of choice in this phase of labor. Ether should always be used where complete anesthesia is required — save possibly in the performance of a version.

* * *

S. W. Bandler, *American Journal of Surgery*, considers at some length various problems of obstetrics. Regarding Pituitrin he has found it to have little effect in stimulating contractions of the bladder, but of decided value in increasing intestinal peristalsis. He uses it as a routine procedure in post-operative cases to assist the action of drugs and enemata, and also as a general stimulant. In Cesarean sections he injects directly into the muscle at the commencement of the abdominal incision and because of its effect is enabled to do an almost bloodless operation. The administration is continued after the section because of the effect this drug has on stimulating the production of the milk.

Bandler uses this substance as post operative treatment in every case of abortion or curettage, giving one ampuole, in divided dosage, each day and continuing this over a period of several weeks as he believes that there is not only a decided action upon the rapid involution of the uterus, but a beneficial effect upon the ovaries as well.

In menorrhagia or metrorrhagia in young girls, the hypodermic administration of one ampuole each day for several weeks is the best ambulatory treatment where examination, local treatment or curettage is out of the question.

In labor, Bandler sums up the entire field of pituatary therapy by the phrase: "proper doses, proper intervals, and proper indications." He commences with the injection of three to five minims. After the effect of this small dosage is noted he continues with a third of an ampuole every half hour as a rule, although sometimes the interval is lengthened.

The question of indication is summed up in the phrase; "When all we need is sufficient uterine force." With this drug Bandler has been able to shorten the time of labor in primagravidus women to between seven and ten hours from the onset of first pains.

The rest of this paper is devoted to a consideration of high forceps versus Cesarean section, with apparently, the section as the method of choice. He concludes with the statement that in the past two years forceps have not been used in his private practice as he has been able to accomplish with pituitrin all that he was ever able to with forceps and at less pain and injury to the mother and child. This is certainly a remarkable record. Pituitrin is a truly marvelous extractive and its scope of usefulness is constantly enlarging — but, personally, I still find quite occasional use for the instruments.

R. E. S.

INTERNAL MEDICINE

Recent literature contains the following:

Etiology of Cancer of Esophagus and Stomach.—Hot fluids so universally taken throughout the temperate climate zone, in the form of coffee, tea, soups, etc., and giving rise to chronic irritation, Lerche believes to be the main predisposing cause of cancer of the esophagus and stomach.

(*Surgery Gynecol. and Obstet.*)
July, 1916.

Diseases of Circulatory System.—Janeway, *Boston Medical and Surgical Journal*, June 29, 1916, urges (1) the education of the public to consider "rheumatism" a serious disease, particularly in childhood, and to seek competent medical advice at once; and the education of the medical profession to treat even the mildest rheumatic fever in bed with large doses of salicylates from the earliest possible moment; (2) the provision of convalescent hospitals for the necessarily protracted aftercare of cases of acute inflammatory disease

of the heart and of patients recovering from myocardial insufficiency; (3) the development of suitable employments for cardiac patients, and of the social and economic machinery necessary to placing them in such employments, and (4) general hygienic measures, including the promotion of temperance.

Venesection as a Therapeutic Measure.—LAWRENCE (*Bost. Med. and Surg. Jour.*, 1916, clxxiv, 203) says that venesection performed under proper indications, is not a dangerous measure, especially since the "dose" can be accurately controlled. In the presence of dilatation of the heart, renal toxemia, hypertension or a combination of these conditions, it may be expected to act more promptly and more surely than drugs. It lowers blood-pressure and at the same time produces a more efficient circulation when performed in cases of hypertension, but does not, in therapeutic "doses" lower normal arterial tension. Venesection should never be performed in the absence of definite indications, but should not be withheld until the hope of success from any measure is gone. The amount of blood to be withdrawn is to be decided by the point at which relief is to be obtained. The error is generally on the side of removing too small an amount. Repeated blood-letting, when indicated, does not seem to have any ill effects upon the composition of the blood.

Factors in the Incidence and Fatality of Measles.—J. G. WILSON (*Arch. Pediat.*, 1916, xxxiii, 261), from a study of statistics, shows that the mortality from measles is less than was considered correct some years ago. In New York City, in 1913, the mortality rate was 2.15 per 100, and in 1914 the rate for 28 States and Territories was 1.73 per cent., so that at present the case mortality rate of measles throughout the United States is less than 2 per cent. This, however, represents the low-water mark of measles mortality, as indicated by the mortality statistics compiled by a large insurance company two years ago, which showed a much higher mortality than has prevailed since the compilation was made. The mortality rate in measles is almost uniformly higher in institutions than in private practice and runs from 13 per cent. to 30 per cent. in large institutions generally. The Contagious Disease Hospital at Ellis Island showed a mortality from measles of less than 10 per cent. before the war, and for the last three months only 8.5 per cent. It is evident, therefore, that the disease has no fixed mortality rate, due probably to some as yet undetermined factor. A regular, periodical recurrence of measles epidemics has been noted in many cities, the time interval being about two years in New York City. The theory of the successive susceptible crops of individuals will not explain the periodicity of epidemics which is shown to vary in different places. Only one factor seems to bear a causal relation, and that is overcrowding. Suppurative otitis media, bronchopneumonia, and cross-infection are noted as the most important complications. Data are taken from the hospital at Ellis Island, and cover 2,000 cases of measles. During a period of three years measles was four times as frequent as all the other contagious diseases combined. The influence of season on the development of broncopneumonia seems small. Generally speaking every recovery from measles and broncopneumonia is balanced by a death from measles with some other complication.

C. H. B.

Rutland County Notes

The Annual Meeting of the Rutland County Medical and Surgical Society was held at the Prospect House, Lake Bomoseen, Wednesday, July 12th, 1916. The President, Dr. C. E. Griffin read a paper on "Functional Diagnosis in Renal Disorders." Dr. Charles F. Dalton, Secretary State Board of Health, gave a very interesting talk on "Diagnosis of the Eruptive Diseases." This was illustrated by many lantern slides.

The following officers were elected for the ensuing year:

President—Dr. J. S. Eastwood, Brandon.

Vice-President—Dr. William Stickney, Rutland.

Secretary and Treasurer—Dr F. H. Gebhardt, Rutland.

Auditor—Dr. H. L. Manchester, Pawlet

Censors—Dr. W. H. Grinnell, Danby; Dr. J. S. Horner, West Pawlet; Dr. C. A. Gale, Rutland.

Delegates for Two Years—Dr. E. J. Rogers, Pittsford; Dr. S. W. Hammond, Rutland; Dr. E. D. Ellis, Poultney.

Alternates—Drs. E. L. Averill, J. J. Dervin, C. F. Ball, C. E. Griffin, H. S. Martyn, H. R. Ryan.

The following were elected to membership: Dr. A. C. Norton, Middletown Spgs., Vt.; Dr. F. H. Everett, Castleton, Vt.

A committee was appointed to draft suitable resolutions on the death of Dr. C. W. Peck and Dr. J. H. Woodward as follows:

Dr. C. S. Caverly, *Chairman,*
Dr. C. B. Ross, Dr. J. S. Eastwood.

The following uniform fee bill was adopted:

Consultation and advice in office, 75c. up. Treatments, examinations, dressings, etc., extra.
Visit in day time within one mile, $1.50 and up.
Visit in day time each additional mile, 50c.
Visit in night, 8 p. m. to 7 a. m., 50 per cent extra over day call (outside of village),
Visit in night, 9 p. m. to 7 a. m. (in village), $2 up.
Consultation fee each in addition to mileage, $5.
Obstetrical cases, ordinary plus mileage, $10 up.
Reduction of dislocations, $5 up.
Reduction of fracture, small bones, $5 up.
Reduction of fracture, large bones, $10 up.

F. H. G.

THE PEOPLE BELIEVE IN SANITATION

The Board of Health:

Dear Sirs:—Will you please send an Inspector to inspect the back house of B—— R——. It is as nasty for the people to live in it. It is dirty, and dumps all around it and the people are afraid to get diseases. The house is B—— R—— of ———. Come at once.

Propaganda For Reform

Vaccine Treatment.—Hektoen (*Jour. A. M. A.*, May 20, 1916, p. 1591) traces the stages by which vaccines, which were first employed with attempted scientific control, have come into indiscriminate and unrestrained use, with no guide beyond the statements which commercial vaccine makers are pleased to furnish with their wares. Already most physicians are realizing that the many claims made for vaccines are not borne out by facts, and that judging from practical results there is something fundamentally wrong with the methods as at present so widely practiced. As clearly shown by Hektoen, "the simple fact is that we have no reliable evidence to show that vaccines, as used commonly, have the uniformly prompt and specific curative effects proclaimed by optimistic enthusiasts and especially by certain vaccine makers, who manifestly have not been safe guides to the principles of successful and rational therapeutics" (*Jour. A. M. A.*, May 20, 1916, p. 1625).

English Prescriptions.—Bernhard Fantus, professor of pharmacology and therapeutics, University of Illinois School of Medicine, favors the abandonment of the so-called "Latin" prescription. He holds that the usual arguments in favor of the "Latin" prescription are fallacious and points out the advantages of the use of English. He concludes: "By far the most important reason for writing prescriptions in English lies in the difficulty medical students have in learning the Latin form. To the student, prescription writing is a bugbear. When one thinks of the crowded medical curriculum and the comparatively small number of hours set aside for pharmacology and therapeutics, it seems a pity to waste any of it on the acquiring of an antiquated form of expression." In regard to the claim that Latin prescriptions guard a patient from knowledge which might be prejudicial, he replies: "Inasmuch as it is the popular opinion that doctors use Latin in prescription writing to keep the laity in ignorance for selfish ends; it seems high time that we antagonize this idea; and we can do

this most emphatically by using English. This we can also do with perfect safety, for secrecy is very rarely, if ever, essential in the practice of the up-to-date physician, who generally prefers to take his patient into his confidence than to keep him in ignorance. Deception is not practiced by the true physician. Therein lies the special difference between the quack and the honest medical man'' (*Jour. A. M. A.*, May 27, 1916, p. 1696).

Ichtyol.—The American agent for Ichthyol—the sole importer—announces that his supply of ichthyol is exhausted. As fraudulent substitutes are offered for sale, this state of affairs should be known to physicians (*Jour. A. M. A.*, May 27, 1916, p. 1734).

Nonspecific Treatment of Diseases.—Evidence is accumulating that certain therapeutic effects ascribed to specific treatment with vaccines or serums, have been due to nonspecific effects produced by these preparations. Jobling and Peterson (*Jour. A. M. A.*, June 3, 1916, p. 1734) review the evidence along these lines. They conclude that too much reliance has been given to the idea of specificity and that we have refused to consider evidence of nonspecific therapeutic results. We should, however, not cast aside all ideas of specificity in disease, a conception which has been the foundation of vaccine therapy. Miller and Lusk (*Jour. A. M. A.*, June 3, 1916, p. 1756) in a paper dealing with one phase of nonspecific therapy, report improvement in cases suffering from arthritis following intravenous injection of typhoid vaccine. It would be of interest to know how permanent the improvement was and in how many cases the cause of the arthritis was found and removed. Also, we must bear in mind the query of Theobald Smith: How much energy does a reaction of this sort cost the patient, and is the final result worth the cost? (*Jour. A. M. A.*, June 3, 1916, p. 1784).

A Case of Beta-Eucain Poisoning.—T. G. Orr, Kansas City, Mo., reports a case of beta-eucain poisoning. Toxic symptoms appeared after an operation in which 3 ounces of a 0.25 per cent. beta-eucain hydrochloride was used for the local anesthesia. After the toxic symptoms have completely disappeared, the patient died suddenly five days later. Necropsy showed an embolus in the left coronary artery (*Jour. A. M. A.*, June 10, 1916, p. 1857).

Efficiency and Nontoxicity of ''Arsenobenzol''.—Udo J. Wile, Ann Arbor, Mich., reports that during the last six months 612 injections of ''Arsenobenzol'' from the Philadelphia Polyclinic have been administered at the University of Michigan Hospital. Wile concludes that the immediate therapeutic results from the use of Arsenobenzol are fully as good as those following the use of Salvarsan and that, given with proper precaution, the drug has shown itself fully as little toxic as Salvarsan. The conclusions refer to intraspinal medication as well as to intravenous (*Jour. A. M. A.*, June 10, 1916, p. 1880).

When Medicines are not Required or are Useless.—Promoters of proprietary ''uterine tonics'' would have their preparation administered to girls and to pregnant women whether indicated or not and in conditions where medicines plainly can do no good. The testimony of E. E. Montgomery, Professor of Gynecology at Jefferson Medical College, Philadelphia, in the ''Cardui'' trial forcibly brings out the objections to the indiscriminate administrations of medicines to girls and women and the futility of their use in cases which need surgical attention. Regarding the administration of ''tonics'' to girls at puberty he said that to advise a girl who is undergoing a physiological process that she must take some medicine which contains alcohol or any habit-forming drug at this period of her life, which is the most impressionable period of her existence, is doing that which is placing her future in peril, and is without any possible benefit. Regarding the administration of a ''tonic'' such as Wine of Cardui is supposed to be, he testified that it can do nothing but harm; that a woman because she is pregnant, pregnancy being a physiological process, does not need medicine, but needs attention. Regarding the use of medicines in uterine prolapse as a means of strengthening the unstriped muscle and thus

to help the muscle to perform its work to hold the womb in place, Dr. Montgomery explained that the unstriped muscle in the women is not likely to be affected by medicine and that the tissue outside the womb is unlikely to be affected by medicine; to give medicine in the case of a woman who has prolapsus is just about as reasonable as to bathe one's suspenders with a solution when the elastic tissue has been destroyed from them (*Jour. A. M. A.*, May 6, 1916, p. 1481).

What is a "Medical Authority"—There has been a tendency to look upon publishers of text books as authorities and not to consider a physician as an authority on a certain subject unless he has written a text book on it. That the publication of a book does not prove its writer to be an authority is the opinion of J Clarence Webster of Rush Medical College expressed at the Cardui case which is being tried in Chicago. Having referred to Frank Billings as an authority, Webster was asked to define the term "authority." He replied: "As far as a human being can be an authority on anything, I would regard a man who had worked at a particular subject in a scientific manner over a period of time, and who had more experience in that subject than other people, or most other people, as the best human authority that could be found." Asked if a man was more of an authority if he had written a book, Webster replied: "Often less in the eyes of the world" (*Jour A. M. A.*, April 29, 1916, p. 1410).

TUBERCULAR LESIONS OF KNEE

Tuberculous Knee Lesion Heals under Iodin.—Rovatti applied Durante's iodo-iodid technic in the knee case described, as he had been so gratified by the success of this treatment in tuberculous glands and tuberculous peritonitis. The patient was a youth of 17, of a tuberculous family, both parents and two brothers having succumbed to tuberculosis of the lungs or meninges. The lad was a hunchback and the knee trouble was of two years' standing. After evacuating the focus, Rovatti injected a mixture of 1 gm. metallic iodin, 3 gm. potassium iodid, 2.5 gm. guaiacol, and 50 gm. neutral glycerin. This was the formula for the injections. They were given daily and by the end of the fourth month the cure was complete and permanent.—*Journal A. M. A.*

In Memoriam

JULIUS HAYDEN WOODWARD, M.D.

Died at his home, 200 West 58th St., N. Y., Sunday, July 2, 1916.

Dr. Julius Hayden Woodward was born in Castleton, Vermont, May 31, 1858, the son of Adrian T. and Lois C. (June) Woodward, the former named being a successful physician of Brandon, Vermont, and the latter a descendant of one of the first settlers of the town of Brandon, Vermont. Theodore Woodward, grandfather of Dr. Woodward, was a prominent physician and one of the founders of the Vermont Academy of Medicine, then the principal medical school of New England.

Dr. Woodward prepared for college in the Brandon Graded Schools and in Norwich University, later entered Cornell University, from which he was graduated in 1879 with the degree of Bachelor of Science. Three years later (1882) he was graduated from the College of Physicians and Surgeons of New York, winning the third Harsen prize for proficiency, and in the same year he received his medical degree from the Medical Department of the University of Vermont. After serving an internship of twenty months in Bellevue Hospital, Dr. Woodward returned to Vermont, and commenced the active practice of his profession at Brandon, Vermont, under the direction of his father. In 1886 he studied diseases of the eye under Professor J. Hirschberg in Berlin and upon his return to this country was appointed to the chair of materia

medica in the University of Vermont; he was Professor of Materia Medica and Therapeutics from 1887 to 1893, inclusive, Professor of Diseases of the Eye and Ear from 1889 to 1898, also Professor of Diseases of the Nose and Throat for a portion of this period. In January, 1887, Dr. Woodward removed to Burlington, Vermont, where his practice was confined especially to the eye, ear, nose and throat; he was ophthalmic surgeon of the Mary Fletcher Hospital of Burlington and also ophthalmic surgeon of the Fanny Allen Hospital. In November, 1897, he removed to New York City, established an office there and in addition to his large private practice acted in the capacity of surgeon for two years to the Nose, Throat and Lung Hospital, which was then in East 59th Street, and also as surgeon for two years to the Metropolitan Throat Hospital at 351 West 34th Street. He resigned from the University of Vermont in 1898. In 1894 Dr. Woodward studied ophthalmology in Paris under Landolt, Trousseau. Volude, DeWecker, Panas, Gulizewski and Abadie.

While at the University of Vermont he was Secretary and Treasurer of the Medical Faculty. He served as Vice-President of the Society of Alumni of Bellevue Hospital from 1907 to 1908 and as President of that Society from 1908 to 1909. He was at the time of his death President of the Faculty Association of the New York Post-Graduate Medical School and Hospital.

Dr. Woodward was a member of the Rutland County Medical and Surgical Society, Vermont State Medical Society, New York Academy of Medicine, Medical Society of the County of New York, Medical Society of the State of New York, and American Medical Association, life member of La Société Française d'Ophthalmologie, American Academy of Ophthalmology and Oto-Laryngology, American College of Surgeons, Society of Alumni of Bellevue Hospital, Post-Graduate Clinical Society, Post-Graduate Faculty Association.

At the time of his death Dr. Woodward was Professor of Ophthalmology and Director of Instruction in the Ophthalmological Department of the New York Post-Graduate Medical School and Hospital.

He was member of the New York Athletic Club, The Camp-Fire Club of America and the Fencers Club.

He has contributed many brochures and papers on his specialty in medical journals, etc., but in recent years, owing to the demands of his profession, his contributions to medical thought have been through lectures and addresses.

J. W. ESTABROOK.

UNITED STATES PUBLIC HEALTH SERVICE

Give the Baby a Chance

Bad air, bad milk, over-crowding, poverty, dirt, ignorance, heat — these combine in summer to kill the city baby. It seems as though the brunt of the cities' sanitary sins were focused on the baby. The baby didn't ask to come, to live in a hot, dark, air-tight tenement, to be fed on dirty, half spoiled milk, to be pestered with flies and mosquitoes. He is not responsible for any of these conditions and it is his right that he have fresh air, clean surroundings and decent food. The United States Public Health Service issues free of charge to all applicants a bulletin on "The Summer Care of Infants." It should be in the hands of every mother.

HYGIENE

In a collection of letters entitled *The Profession of Medicine,* edited by Doctor Arthur B. Emmons, 2nd, Director of the Appointments Bureau of the Harvard Medical School, there is a passage quoted from a personal letter to the Editor from Irving Fisher, the well-known economist, which every physician should read and ponder. It is as follows:

"The great preventable wastes in this world are, I believe, wastes which can be prevented only, or chiefly, by hygiene. Crime, vice, insanity, disease, death, and poverty could be wonderfully reduced by applying hygienic knowledge, even the little already available. The economic cost from wrong habits and conditions of living is, I am convinced, on the basis of such fragments of evidence as are obtainable, so colossal that even workers in this field would be astonished if the whole picture could be revealed.

"The medical profession is, naturally, the body of men through whom this waste is to be checked. With the increased knowledge concerning hygiene and the rapidly increased interest in it, the medical profession has an opportunity greater than ever before. Their art is being securely based today on exact science.

"In order to rise to the occasion the profession must keep abreast of recent contributions to their subject, not only in surgery and therapeutics, but also and even more in preventive medicine and in the study of the physiology of common habits—the use of alcohol, tobacco, tea, coffee; the amount, ingredients, and proportion of a wholesome dietary; the outlines of a well-balanced daily regime with its due proportion of work, rest, sleep, and play. He must take an interest in public hygiene, industrial hygiene, school hygiene, dental hygiene, domestic hygiene, individual hygiene, and all other applications. He must learn to apply his art to the upbuilding of vitality instead of simply to the repairing of sick bodies. The doctor must supplant the unintelligent physical trainer. A demand for his services must be created by the widespread circulation of the principle of medical re-examinations in general, similar to the dental re-examinations in particular, which are becoming customary.

"Lastly, he must acquire a sense of his own individual responsibility to live a life beyond criticism in respect to hygiene, the use of drugs, including alcohol, and the adherence to a high ethical code in that important border-land between hygiene and morality. He must have the courage of his convictions, the willingness to practice what he preaches, and the determination to lead in the fight against immorality, alcoholism, and other evils connected with his profession instead of condoning these and following current customs in order to increase his practice. In short, he must not prostitute his practice even by acquiescence in wrong customs, much less by subservience to the interests of the forces which it is his professional duty to fight."

VERMONT STATE BOARD OF HEALTH QUARANTINE OF CHILDREN FROM NEW YORK CITY

Infantile Paralysis (Epidemic Poliomyelitis) is prevailing to an unusual extent in the city of Greater New York.

Families in that city in which there are children will naturally take such children as far as possible into the country. The State of Vermont has unusual reasons for taking extraordinary precautions against this disease. Infantile Paralysis is generally recognized as a contagious disease and one that may be spread innocently by persons who have no clinical symptoms, in other words, by "abortive cases" or "healthy carriers." The State Board of Health of this State deems it reasonable under the circumstances to make the following rules and regulations; therefore under the authority of Section 5419 of the Vermont statutes, the following rules and regulations are promulgated:

1. No child under the age of fifteen years shall reside in this State for a period of more than twenty-four hours without being reported by an attendant, parent or guardian to the Health Officer of the town or city where such child is, provided such child has been in the city of Greater New York since the 20th of June, 1916.

2. It shall be the duty of every housekeeper, manager or proprietor of every hotel or boarding house where such child is domiciled to immediately report such child, giving the name and age to the Health Officer of his city or town.

3. Every such child shall be subjected to quarantine for a period of two weeks from the time such child was last in the city of Greater New York.

4. The Health Officer of every town and city to whom such a child is reported shall immediately serve a written notice upon the head of the family in which such child is; this written notice shall contain a copy of these regulations and an order signed by such Health Officer requiring such child to remain on the premises in which it is at that time for the specified time of two weeks after last leaving the city of Greater New York.

5. Each Health Officer to whom such child is reported shall require of the attendant, parent or guardian of such child, a certificate in writing, duly signed by a legal practitioner of medicine, certifying that the nose and throat of such child has been thoroughly washed with a solution of a teaspoonful of common salt in a pint of water, once a day for a period of three consecutive days, before the premises are released from quarantine.

6. No child under fifteen years of age shall enter any house so quarantined.

7. A placard containing the word "Quarantine" shall be sufficient evidence to all persons that the premises are quarantined for the purpose of these regulations.

Nothing in these regulations shall be construed to prevent other members of a household in which there is a child as above described, who has left the city of New York since June 20th, 1916, from attending to their usual occupations.

The owners, managers or proprietors of hotels and boarding houses may place no restrictions on attendants or guests in their hotels or boarding houses further than the strict isolation of any children as above described from New York City, provided such children are isolated to the satisfaction of the local Health Officer and their noses and throats irrigated as specified.

Each Health Officer will see that a copy of these regulations with which he is furnished is conspicuously displayed in at least three public places in his town or city.

These rules and regulations will remain in force until further notice.

Per Order Vermont State Board of Health.

CHARLES F. DALTON, M. D.,
Secretary.

Adopted, July 6, 1916.

News Notes

Dr. F. E. Steele of Montpelier announces that he is a candidate for the office of State senator on the Republican ticket.

Dr. Linwood M. Kelly of Manchester Center has resumed his practice after six months post-graduate work in New York.

Dr. H. H. Lawrence, who has been a practicing physician in Putney, has gone to Springfield, where he will open an office. Dr. Hazen of Burlington will succeed Dr. Lawrence at Putney.

Dr. H. H. Johnson, formerly of Franklin, has purchased the home and office of the late Dr. John Gibson of St. Albans and began the practice of his profession there July first.

Dr. W. H. Wright of Georgia has removed to Franklin, his native town, to take over Dr. Johnson's practice.

Dr. Fred A. Edmunds of Bethel decided to respond to the President's call for Vermont soldiers. He saw no opening in the Medical Department, so enlisted to carry a rifle as sergeant in the First Squadron, Vt. Cav. When he arrived at the mobilization camp he was at once recognized and made a captain in the Medical Unit.

The Medical Officers of the First Infantry, Vt. National Guard now at the Mexican border are: Maj. T. J. Hagan of Pittsford, 1st Lieut. W. H. Mitchell of Shelburne and 1st Lieut. H. W. Taylor of Brattleboro. Capt. F. E. Clark of Burlington is a Medical officer of this regiment, but is assigned to special duty at the mobilization camp at Fort Ethan Allen. Capt. Edmunds is with the Infantry Regiment. Dr. E. J. Melville of Burlington is Maj. & Surg. on the staff of the Adj. Gen. of the State of Vermont.

It is again our sad duty to chronicle the death of another member of this society, as it has been each month since VERMONT MEDICINE was inaugurated. On July 2nd Dr. Julius Hayden Woodward died at his home, 200 West 58th Street, New York City, and the Vermont State Medical Society has lost one of its most respected members. Although Dr. Woodward has practiced his profession in New York since November, 1896, he has always retained his membership in this Society, to which he was elected October 14th, 1886.

At the graduating exercises of the University of Vermont in Burlington, June 28th, thirteen young men were given the degree of M.D. This is the first class to graduate that was entered under the new program requiring at least one year of college work before registration is permitted. Dean Tinkham stated that the entering class in September will number twenty-five. Although the College of Medicine of the University seems to be making good and firmly fixed in the "A Class" as defined by the A. M. A., it still needs the loyal support not only of its Alumni in the state, but of every practitioner in Vermont that wishes to have an elevated standard of medical education and practice maintained in the State.

At the Alumni meeting the following officers were elected for the next year: President, L. W. Flanders, M.D., '85; 1st Vice-President, Frank A. Clapp, M.D., '88; Secretary-Treasurer, F. K. Jackson, M.D., '99. At the Banquet, held at the Van Ness House, the toastmaster, Dr. J. N. Jenne, announced that Dr. John B. Wheeler had been elected a member of the Board of Trustees of the University by vote of the Alumni.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 8 $1.00 per Annum

Rutland, Vermont, August, 1916.

Original Papers

SOME FUNDAMENTAL CAUSES OF DISEASE

By

WILLIAM SEAMAN BAINBRIDGE, M.D.
New York City.

Abstract of a Lecture, illustrated with stereopticon views, presented at the University of Vermont, Burlington, April 27, 1916, in the Post-Graduate Course of the Vermont State Medical Society.

The history of the search for the causes of disease is as old as the human race. The savage of the primeval forest who sought to cure the aches and pains, agues and fevers, of his tribesmen, with root and herb, tooth and toenail, no doubt had his own theories as to the cause or causes of the physical ailments which he endeavored to alleviate. The incantations of the "voodoo doctors" of all ages had their origin in a theory, however crude or vague and far afield, of the origin of the disease which he sought to frighten away.

As civilization advanced, and the history of medicine began to assume a more authentic character than the previous word-of-mouth records, it became largely a chronicle of the long-continued struggle to discover causes. Man has always sought to know the reason why. When, therefore, a plausible explanation of all physical ills was proposed it was accepted without question, and advocated until another, more plausible, theory was offered.

Thus, during many centuries of the earliest period of recorded medical history one theory held sway for more than a thousand years. This was the so-called humoral theory, often alluded to as the Galenic theory of disease. Every physical ailment was, in the minds of the early physicians, the outcome of perversion of function of one or more of the four humors—blood, mucus, yellow bile and black bile—to which so much importance was attached by these observers. And so, during the periods made famous by Hippocrates, Celsus, Galen and their followers, who left their impress upon the primitive records of medicine, the world was content to accept this humoral theory of the cause of disease. So completely had this hypothesis been accepted, that a profound sensation was created among those who gave thought to such matters when Paracelsus presumed to cast doubt upon this time-honored explanation of the origin of disease.

The discovery of the circulation of the blood, the first great step in the progress toward the ultimate solution of physical ills, altered the older conceptions of anatomy and physiology, and placed the normal on such a clear eminence that departures into the realm of the abnormal were much more

plainly notable than ever before. This was of vital importance in the search for the fundamental causes of disease.

The invention and perfection of the microscope, making possible, as it did, the discovery of the cellular character of the body and revealing, as it likewise did, the hitherto invisible and unsuspected world of bacteriological life, opened new fields of investigation, one after the other, in rapid succession.

The blind acceptance of the four humors was soon replaced by a scientific understanding of the circulatory system, and the "animalcules" to which Leeuwenhoek, the Dutch lensgrinder, directed attention, were soon metamorphosed into the bacteriological flora which we now recognize as the fundamental cause of so many diseases.

The germ theory now became the medium through which all, or certainly the larger proportion of diseases, came to be studied. No matter what the symptoms, the effort was made to reduce the cause to terms of germs. One by one the enigmas of the past have yielded to the search-light of scientific investigation, and the offending bacterium or other parasite, cell or worm or what-not, has been discovered, Bertilloned, as it were, and properly catalogued. Some diseases, notably cancer and infantile paralysis, are still mysterious so far as the fundamental cause is concerned. Other diseases, it is fair to assume, may never be associated with a specific organism as the essential cause. Notable among these are certain disorders of the glands and organs of internal secretion, giving rise to such affections as the different forms of goitre, and to certain abnormalities of mind and morals.

Just what part, if any, germs or other parasites may play in augmenting such affections as have not been definitely traced to a specific origin, cannot be stated at the present time. Study along this line, however, has directed attention more and more to the body cells themselves, as well as to the foreign cells or germs which destroy or vitiate the function of the individual body cells, or groups thereof which we know as organs or tissues, and finally of the body as a whole.

Following this line of investigation, two factors have been brought prominently into the foreground (and of these I wish to speak particularly on this occasion): first, internal secretions, the so-called hormones, which regulate and bring into harmonious action the various functions of the tissues in the interests of physiological life; second, the *pars resistans* of the tissues themselves.

The power of the cells which compose the body to do their work is commensurate with their nutrition and vitality. The resistance of the tissues to the introduction of disease or disturbed function is dependent in very large measure upon the condition of the cells which constitute them. This tissue resistance lies back of, and favors or hinders, the internal secretions in their work of regulating function.

It will be seen, therefore, that these two questions play a most important role in the study of pathological conditions which we call diseases, their prevention and their treatment.

Recognizing, therefore, the importance of cellular vitality, the trend of modern research along preventive lines is directed not only against the causa-

tive germ, when one is known or suspected to be the provocative agent, but against the products of such organisms, the toxins or poisons which are liberated in the tissues as a result of the activity of these invaders.

This warfare of prevention by elimination is directed not only against the bacterial toxins, but against the tissue toxins as well. The work of Carrel, of the Rockefeller Institute, has shown that tissues may continue to live almost indefinitely, *provided the toxins of the tissues themselves, the products of the activity of the individual cells, be removed.* Thus, when Carrell returns from France and his war activities, he will probably find tissues, removed from the body of which they formed a part, and which he left to the care of his assistants when he sailed away, still alive and healthy. Failure to keep such tissues clean, to eliminate the possibility of self-poisoning, would quickly result in their death and decay.

It would seem, therefore, that if a spring of eternal youth or a fountain of everlasting physical life is ever to be in a measure discovered it must provide for the purification of the individual cells, and thus of the body as a whole. For it is essential to health, and even to life, that we get rid not only of the poisons which may be absorbed from without, but we must also rid ourselves of the poisons produced in the very living and being of the cells which constitute our bodies.

In other words, we must help Nature, wherever she needs help, in the elimination of the products of metabolic activity. There is, as I have suggested, abundant evidence to prove that faulty elimination of the products of physiological activity is a fundamental factor in the production of such states of being as facilitate the taking on of disease, if, indeed, it is not itself the essential cause of certain diseases.

In short, the matter resolves itself into a question of body plumbing and sanitation. Our physical house, the body, as well as the temporal house in which the body dwells, must have a proper plumbing system, in order that each individual cell may be kept free from the stagnation and accumulation of the poisons taken into or engendered within the organism.

In this connection there comes to mind the allegorical presentation of defective drainage familiar to those who have seen the play, "The Servant in the House." It will be remembered that the town in the play was beautiful, business was good, the inhabitants were prosperous and seemingly healthy. Outwardly the community was in a most satisfactory condition, but something was essentially wrong. The moral state of this delightful little town was unsatisfactory. In order to overcome this unfortunate moral and spiritual unhealthiness, the selectmen of the town decided to build a fine cathedral in the hope of improving the tone of the community. The great church was built, the bells rang out on Sunday, and the inhabitants flocked to the service. The choir was good, the music was beautiful, and the services were conducted after the manner of the best cathedrals. Apparently all was well. Presently, however, the congregation began to complain of headaches, those who were most persistent and assiduous in their attendance having the severest headaches. The choir

was changed; the minister was changed; every effort was put forth not only to render the service attractive, but to prevent the troublesome headaches, which were the invariable accompaniment of attendance upon the services. All these efforts, however, were in vain. The elders finally met in solemn conclave to decide what further steps to take to rectify the trouble. After a good deal of futile conversation, one man suggested that a friend of his should look into the matter. The friend, who was only a drain man, with no education, no gift of speech, and dressed in overalls when he was brought in, happened to know, as he told them, what was the matter with their cathedral. It was a defective drain right under the altar!

As with the cathedral, so with the body,—defective drainage is the hidden cause of many ills.

The builders of cathedrals have long recognized the fact that beauties of architecture count for nothing if ventilation and drainage are imperfect. The trend of the times in the matter of house building, whether it be cathedral or sky-scraper, palace or bungalow, has been steadily toward improvement in every detail of sanitation. Fortunately for the occupants, the architect is able to forestall the headaches of the allegory, and the many other physical ills which might result from faulty construction, because he has mastered the principles of sanitary house building, and is able to express his knowledge in brick and mortar. And if, perchance, through wear and tear, or unavoidable accident, the plumbing system of a house is rendered inefficient, the same knowledge is quickly brought to bear in the rectification of the trouble. The occupants, by the way, run no risks of sickness from this source, if defects are soon detected and the remedy applied.

Unfortunately, the bodily house is not so easily blue-printed as is the cathedral or the home. Each individual human house is more or less a law unto itself. It does not always come into being in the perfect condition that the house of brick and mortar assumes when the builder has finished his work. And even when the human tenement is initially fit, extraneous circumstances all too often combine to render it unfit.

Thus, in infancy, we find the central drainage system of the bodily house, —the alimentary canal—thrown more or less completely out of commission through improper feeding. The "colic" and all the other "upsets" to which the infant, improperly cared for, is prone, often express themselves in later childhood in bad teeth, in defective physical or mental development, or in one or another of the definite diseases.

The drainage system thus early impaired, if left in this defective state, may grow progressively less and less efficient as age advances. A defect which should never have been allowed to exist, and which could have been corrected by very conservative measures if promptly recognized in its beginning, is thus allowed to reach a stage in which to rectify the damage and to prevent further trouble, requires the most radical measures.

There is laid the foundation, then, within this imperfect drainage system, of a state of affairs which may prove to be a fundamental factor in the production of other and more far-reaching

abnormal conditions. Vicious circles of action and counteraction are thus set going, the progress and the ultimate outcome of which it is difficult and sometimes impossible to determine.

When, for example, the teeth,—the outposts which should guard the great drainage canal of the body,—are defective, and the mouth unclean, as it must be when defective teeth are present, the entire alimentary tract suffers. Digestion is upset, constipation results, or perhaps chronic intestinal stasis ensues.

The first, and most obvious preventive measure, then, is to rectify all defects in the teeth as promptly as possible. Bad teeth act injuriously on the stomach and intestines and these, in turn, react on the teeth. Moreover, if the teeth are not sound, food cannot be properly masticated and must be imperfectly assimilated. The first step, therefore, and a very important one, in the sanitation of the human body is to put the teeth in a sound state, and the gums and mouth in a clean condition, and to keep them so.

In searching for fundamental causes of disease, however, one must guard against a too close focalization of attention upon one or another source of functional error. While the teeth undoubtedly set going many abnormal processes in the alimentary canal, other possibilities are to be borne in mind. For, according to latter-day investigations, the intestines themselves, through the tiny glandular structures within their walls, are supposed to furnish their own regulators or hormones in the way of one or more internal secretions. It is supposed by some observers, for example, that chronic intestinal stasis—the sluggish, lagging onflow of the contents of the great drainage canal of the body—is caused, in part at least, by perverted function of these intestinal regulators. Here, then, we seem to find another fundamental factor in the production of disease.

It is only within comparatively recent years that our knowledge of the function of the ductless glands and their internal secretions has assumed anything like exactitude. It was not until Brown-Séquard, experimenting with testicular extracts, which he administered to himself and some of his co-workers, gave the cue, that the theory of the existence and function of the internal secretions was put to the test of practical application. By the administration of the extracts of certain glands, it was found that the function of the corresponding glands in the individual to whom the extract was given was stimulated to greater or to more nearly normal action. From these experiments has been evolved one of the most promising theories as to the fundamental cause of an important class of maladies, to which I have already directed brief attention.

So important is the role attributed to the internal secretions in the normal exercise of body functions, that some observers have gone so far as to hold that so long as these secretions are generated properly and exercise their regulatory function in normal fashion, all is well with physical health. When, however, through the abnormal conditions that arise in consequence of defective drainage throughout the body, or as the result of other conditions not determined, the internal secretions are in any way interfered with, the ma-

chinery of the body is more or less vitally hindered.

It may be that the evil influences, whatever they are, that interfere with the output of these secretions are conducive to too great a flow of these mysterious fluids; if so, then we have a hyper-activity of certain functions, over which the given gland of internal secretion is supposed to exercise its regulatory function. An illustration of the outcome of this state of affairs is seen in exophthalmic goitre, or Graves' disease,—systemic goitre as I prefer to call it,—with the bulging eyes, in some cases, the enlarged thyroid gland in the neck, the rapid heart beat, the shortness of breath, and the general distressing symptom-complex of this affection.

On the other hand, if too little of the secretion of the thyroid gland is the result of the interference with its function, we have a hypo-activity of certain process, leading to many distressing physical and mental abnormalities, such as excessive fat, congenital idiocy or cretinism, and a number of unfortunate and previously unexplained below-par conditions.

Illustrations of many of these conditions were presented in connection with the Oration on Surgery, which I had the pleasure of delivering before the Annual Meeting of the Maine State Medical Society, at Poland Springs, Me., on June 9, 1915, report of which was published in the Maine Medical Journal, August, 1915.

Just what part the internal secretions play in the production of chronic intestinal stasis, as I have said, has not been determined, but it is fairly certain that another vicious circle is here set in motion. For intestinal stasis, however inaugurated, seems to be, in itself, a fundamental factor in the production of certain diseases.

This condition to which Sir Arbuthnot Lane, the great surgeon of London, has applied the term "Chronic Intestinal Stasis," is a persistent retention or retardation of the contents in some part of the intestinal canal, which occurs at certain points of predilection, one of these being in the appendix region. This is not the commonly known condition of sluggishness in the lower bowel designated as constipation, for stasis is often accompanied with the opposite of constipation, namely diarrhea.

When chronic intestinal stasis occurs, intestinal putrefaction ensues, auto-intoxication follows, and in the wake of these, comes a long train of physical and mental ills, too lengthy to be recounted here. The immediate symptoms, quite naturally, vary with the duration and the intensity of the stasis. Common among them are headache, general malaise, localized pain and tenderness in the abdomen, backache, drowsiness, inability to fix the attention, brown staining of the skin, a lumpy condition of the breasts in females, melancholia, and so on, leading up to absolute mental and physical disability.

According to Lane, this stasis is a fundamental factor in the causation of many diseases.

And so we have here a sort of house-that-Jack-built state of affairs, one ailment growing out of another, this. in turn, giving rise to another, and so on, until we get back, no matter which way we turn, to the foundation of all—*defective bodily drainage,* with the ali-

mentary tract playing the role of main conduit.

When intestinal stasis is present, with its concomitants, intestinal putrefaction and auto-intoxication, it is plain that the drainage canal is not being thoroughly cleared of its contents; that efficient plumbing is called for, and that Nature, the greatest of all plumbers, must be assisted, or the results of interference with her work overcome by whatever radical plumbing measures may be indicated.

Sometimes,—in fact, in the vast majority of cases,—it is possible to re-inaugurate normal drainage by dietetic, hygienic, and medicinal measures. When the intestinal stasis is of mild degree and of short duration it is quite possible to overcome it entirely by such conservative means. It is not, therefore, always to be considered as coming within the category of surgical affections, to be treated only by operative interference. If, however, through neglect or improper treatment, the individual case is no longer amenable to preventive measures, or to the milder methods of treatment which come within the province of the family physician or the specialist in diseases of the alimentary tract, then the surgeon must be consulted. In many instances conservative surgical procedures will answer. These may consist of cutting bands which have formed about certain portions of the intestines, causing kinks in its walls, and obstruction to the flow of its contents. Sometimes the appendix, through inflammation or other causes, may "hitch up" a contiguous loop of the intestine in such way that it does not drain properly, thus leading to a condition of stasis in this part of the drainage system. Removal of the appendix and straightening out the canal in such cases may restore proper drainage. And so, according to the condition found on opening the abdomen, milder surgical measures may overcome all the difficulty.

Unfortunately, however, some cases have advanced too far for such conservative treatment before relief is definitely sought. In such cases it may be necessary to resort to the more radical procedures for overcoming the long-continued interference with drainage and the resulting pronounced and persistent intestinal stasis. Here it may be necessary to "short-circuit" the drainage system, by what is known as ileocolostomy—the joining of one portion of the canal to another in such way as to give a "short cut" to the onflow of the contents of the bowel. In other cases it is necessary to remove a part of the large bowel by the operation known as colectomy.

The sequence of therapeutic intervention to be borne in mind, then, in connection with chronic intestinal stasis, is: (1) Prevention; (2) Medical, dietetic and hygienic treatment; (3) Conservative surgery; (4) Radical surgery; (5) Post-operative care to prevent recurrence.

The important lesson to impress by what I have said is that the bodily mansion requires and deserves at least as careful attention to its sanitary plant as does its temporal dwelling place. Some of the enigmas of disease are being cleared away by the discovery of the fundamental causes thereof; others remain as yet unsolved. The solution of many of these depends in a large measure upon continued effort along the lines which I have endeavored to follow on this occasion.

RECTAL ANAESTHESIA AND DEMONSTRATION OF GWATHMEY'S METHOD

By WILLIAM M. JOHNSON, M.D.

House Surgeon, New York Skin and Cancer Hospital

Surgical clinic of Dr. William Seaman Bainbridge, held under auspices of Vermont State Medical Society, Burlington, Vt., April 16, 1916.

Rectal or Colonic Anaesthesia was of no practical importance until Gwathmey, after extended experiments by himself and collaborators, perfected the "Oil-Ether" Colonic Anaesthesia. He first presented a paper before the Seventeenth International Congress, at London, August 6th, 1913, calling attention to the superiority of this method and reciting the animal experiments of himself and co-workers.

The first successful clinical demonstration of "Oil-Ether" Anaesthesia was held at the People's Hospital, New York City, on September 27th, 1913, upon a patient of Dr. Rothenberg. Since this time the technic has been slightly modified and perfected, and those who have given the matter any thought, or the method a try-out, are quite enthusiastic in its use, so that now it is used by a large number of surgeons in all parts of the country. As an incident, to demonstrate the confidence of the man in his own method, I will just say that Dr. Gwathmey recently had to undergo some surgical operation and had one of his confrères give him the anaesthesia by this method. Both the anaesthesia and the operation were successful. In a recent conversation, he reports about two thousand cases, with no fatalities.

In the Hospital with which I am connected, I have supervised over fifty cases of "Oil-Ether" Anaesthesia, with absolutely no untoward effects. Most of these cases were on the service of Dr. Bainbridge. In comparing these cases with the other methods (namely, the vapor and drop methods), lung irritation, post-operative nausea and vomiting seemed less by this method. Fright and mental shock were certainly much less. The method is very taking with the patients; I have repeatedly had them say, on return from the operating room and to consciousness, "When will I be operated on?" More than once, in extremely nervous patients, who particularly dreaded the anaesthesia, I have had the "Oil-Ether" mixture administered to them without their knowledge, they thinking they were only getting a bowel irrigation. They would go off into surgical narcosis, be taken to the operating room and returned, with no knowledge of what had transpired. This eliminates the ordeal of the patient's sometimes facing tht surgeon and assistants with the gruesome appearance of the operating room, and the much dreaded ether mask, thereby abolishing fright and mental shock. The method thus carried out would seem to obviate the necessity of nerve blocking, or Crile's anociassociation, in general anaesthesia.

The patients are prepared as for vapor anaesthesia, with the exception that it must be seen that the rectum is absolutely free and clean, in other words, in the best possible condition to absorb the "Oil-Ether" mixture. It is

our custom to order a cathartic of castor oil at two P. M. the day preceding the operation, the same night the patient to have (after oil has acted) colon irrigation until it returns clear. In the morning one or two colon irrigations are to be given, *until the water returns clear.* Two hours before the operation, five to fifteen grains of chlorotone is given per os; thirty minutes before, the regular anaesthesia is given, consisting of

Paraldehyde .....drs. II to III
Olive Oil .....oz. II
Ether .....oz. III to IV

This is given by a competent nurse, and allowed to flow very slowly, about one ounce escaping each minute, with the patient in the Sim's position. It is very important to have the patient in a dark room, and free from any noise as loud talking, etc. If compelled to be in a ward, the bed should be screened. At this time, the patient is also given one-sixth to one-quarter grain morphine, together with one 1-150th grain of atropine subcutaneously, remembering that hyoscine, grains one-two hundreth, in addition to the morphine, acts better with alcoholics. These agents are very synergistic in their action and should always be chosen according to their indication. The patient must not be disturbed in any way until surgically under (regardless of the surgeon's hurry), which will require from fifteen to thirty minutes. After about four minutes, the odor of ether will be noted on the patient's breath. The ether does not separate from the oil, until warmed and vaporized by body temperatures, when it is taken up by the intestinal mucosa, through the hemorroidal veins, transmitted to the liver, thence to the heart and finally to the lungs. The absorption by this method is slow and uniform; the patient absorbing about two ounces per hour, less than any other save the intra-venous, which is about one and one-half ounces per hour, the vapor and drop method being variously estimated at from three to six ounces per hour. The dose is determined by the age, weight and habits of the patient, about one ounce of ether being required for each twenty-five to thirty pounds body weight. When paraldehyde is used, this may be lessened, but never give in addition over six ounces of a seventy-five per cent "Oil-Ether" mixture to adults, regardless of weight. Children only require from fifty to sixty percent ether, and below nine years of age no preliminary treatment.

This method differs somewhat from the respiratory, in as much as the ocular reflexes should never be abolished, neither should sterterous breathing be allowed to continue. *These are danger signals*: if they occur the indication is to withdraw from one to two ounces, or all, of the mixture, massage the bowel from left to right, immediately over the transverse colon, and irrigate with cold water. If patient seems to be coming out, keep mouth and nose covered, when they will rebreathe and quickly go back into a smooth, easy surgical narcosis. If getting too much, the nose and face may be left uncovered. The tongue and jaw should be carefully watched in this, as in any other general anaesthesia. At completion of operation, the colon should be irrigated, the transverse colon being massaged from left to right. This may be accomplished through rectal tubes,

which have been left in place but clamped off, while dressings are being applied and before the patient is removed from the operating table.

The indications for this method are the safety and ease of administration, without any complicated apparatus, the only things required being a rectal tube, with funnel, and a Gwathmey irrigating tube. It is specially indicated in all operations on the head, neck, throat or chest, the obese, alcoholic, and in the aged on account of lessening bronchial irritation. Contra-indications are any disease of the intestines, also operations on the pelvis, and in general, laparotomies, on account of gaseous distention. However, with excellent assistants to hold back the intestines, this may be accomplished, and not a few celiotomies are being performed under this method of narcosis. When this method is better understood, it will be the method of choice in suitable cases.

HEALTH INSURANCE RECEIVING ATTENTION

At the last meeting of the American Medical Association the house of delegates recommended that every constituent State association be requested to establish a committee on social insurance to work in conjunction with the committee on social insurance of the American Medical Association.

CREMATION

The fourth annual convention of the Cremation Association of America will be held in the auditorium of the Hotel Gibson, Cincinnati, Thursday and Friday, August 24 and 25. All of our readers who believe in or are interested in cremation are cordially invited to attend. They are also eligible to associate membership upon payment of one dollar to the treasurer, Mr. E. P. Samson, 433 Sixth Avenue, Pittsburgh, Pa., a formal application not being required. Money thus obtained is used for purposes of propaganda.

It is not only a source of satisfaction but pride to know that some of the most eminent members of our profession have been connected with the sanitary reform known as the cremation movement. In Germany it was advocated by Rudolph Virchow, in England by Sir Henry Thompson and Sir T. Spencer Wells, in France by Dr. Prosper Pietra-Santa, in Denmark by Dr. F. Levison, and in Italy by Drs. Gaetano Pini and M. de Cristoforis. In our own country, Dr. Francis Julius Le Moyne, a graduate of the medical department of the University of Pennsylvania, built the first crematorium in America at his own expense, and cremation was ardently promoted by Drs. Samuel D. Gross, Edward J. Bermingham, Felix Formento and Hugo Erichsen, the present president of the Cremation Association of America.

It will be news to many that the United States has forged ahead of Germany in the leadership of the cremation movement. There are 53 crematories here as compared to 48 in the Vaterland and two more are in contemplation, one at Salem, Mass., and another at Kansas City. We have also outdistanced Germany in the total number of incinerations, the figures being 86,006, up to the end of 1913, as compared to 76,350, up to the end of 1915. Statistics, recently published in "The Sunnyside," show there was an increase of 906 per cent in the number of cremations in America in 15 years, and that, as the man in the street would say, is certainly "going some."

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

James Madison Hamilton, M. D., Rutland, Sec'y.
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The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., August, 1916.

Editorials

NEGATIVE EUGENICS

Recognition of the transmission of hereditary characters resulted from the observation of animals long before man invented written symbols to perpetuate the record of his triumphs and sufferings, and the practical application of this recognition for purposes of breeding dates also from an immemorial antiquity. Jacob's experiments in cattle breeding, whereby he gathered to himself the best of Laban's flocks, may have been as faulty in method as in morality, but they established the fact that Jacob knew the value of breeding from the best of the herd, and took his advantage of that knowledge for personal profit. But what Jacob perhaps did not know was that he also transmitted his own characters to his offspring, and his perception of morality has always remained an unimpaired characteristic of the long line of Israelites who for 3,600 years have acknowledged him as their progenitor. Jacob was in fact subject to the same laws of hereditary transmission as the animals to which he endeavored awkwardly to apply them.

Nor is the value of this principle as adapted to mankind so recent as eugenists themselves fancy. In that storehouse of wisdom, culled and native, written about 1625 and endowed with the lugubrious title, "The Anatomy of Melancholy," we read this passage:—

So many several ways are we plagued and punished for our fathers' defaults; insomuch that as Fernelius (1497-1558) truly saith, "It is the greatest part of our felicity to be well-born, and it were happy for human kind if only such parents as are sound of body and mind should be suffered to marry." An husbandman will sow none but the best and choicest seed upon his land, he will not rear a bull or a horse except he be right shapen in all his parts, permit him to beget offspring except he be well assured of his breed; we make choice of the best rams for our sheep, rear the best cows and keep the best dogs. And how careful, then, should we be in begetting our children? In former times some countries have been so chary in this behalf, so stern, that if a child were crooked or deformed in body or mind, they made him away. In Scotland, saith Hector Boethius (1465-1536), if any were visited with the falling sickness, madness, gout, leprosy, or any such dangerous disease, which was likely to be propagated from the father to the son, he was instantly gelded, a woman kept from all company of men, and if by chance having some such disease, she were found to be with child, she with her brood were buried alive. And this was done for the common good lest

the whole nation should be injured or corrupted. A severe doom you will say and not to be used among Christians, yet more to be looked into than it is. For now by our too much facility in this kind in giving way for all to marry that will, too much liberty and indulgence in tolerating all sorts, it comes to pass that our generation is corrupt, we have many weak persons both in body and mind, many feral diseases among us, crazed families, etc.

This great warning, uttered centuries ago in Scotland, France, and England, lay totally unheeded, if not totally forgotten, until 1883, when Francis Galton, a cousin of Darwin, having studied carefully the inheritance of genius, brought out his work, "An Inquiry into the Human Faculty," and coined the word Eugenics to signify the exact thought that lay in Fernelius' mind.

How long or how rigidly this Scottish law was enforced, we are not informed, but probably its inhumanity and the necessary partiality of its enforcement soon caused it to fall into disuse. This conjecture becomes nearly a certainty when the effect of its operation in titled families on an only son is considered in the light of ancestral descent and the recognized implication of primogeniture and entailed property. In these cases the law must have faltered, but the antiquity of the attempt to introduce the eugenic principle into the body of the law is, however faulty in its application and however brief in its early existence, an interesting fact. The attempt was doubtless premature. We have learned since the 15th century that gout and leprosy are acquired and not transmissible diseases. The classes to which attention is today drawn in the revival of the old Scottish law are criminals, insane persons, and the feeble-minded.

We have not thought it necessary to consider minutely the transmission of criminal traits with which everyone is familiar, nor the hereditary character of insanity which is admitted on all sides, but a single word may be said about the exclusion of insane immigrants.

In the discussion on immigration conditions in the House of Representatives, in January, 1914, the fact was brought before the attention of Congress by Mr. Lathrop Brown of New York, that according to the official report "there were in the asylums of the State of New York, 13,163 foreign-born insane patients. It costs the State $262 per annum for each patient, which makes a total sum of $3,488,706 expended in this State in 1912 for the maintenance of the alien insane. Their average hospital life being eleven years, the State of New York alone finds itself confronted with the necessity of raising by taxation $37,935,766 for their maintenance." The same reckoning applied to the registered inmates of the publicly supported insane asylums throughout the United States would give us the respective sums of $57,330,300 and $630,633,-300, which is only a small part of the total economic loss incurred for the care of our insane wards. Of course, the item of money expense is such a trifle when compared with the menace to the future of the human race that we must ask indulgence for mentioning it at all.

For the menace outruns the expense. Forty-six States support 141 public institutions for the insane and house 180,-650 inmates who are State charges. This calculation was made from the State reports published in the 1916 Directory of the A. M. A. and does not include

the inmates of Retreats, Infirmaries, Sanatoriums, "Homes," or private hospitals. As a rule the inmates of these institutions are not a public charge, although many of them are admitted under an agreement or contract with the State by the terms of which their expenses are borne by the city or town from which they were committed. Under-estimating the patients in these private asylums at 20,000, it appears that 200,000 insane patients are withdrawn from public ways and confined in asylums,— that is to say, one in five hundred of our population. In New York State there are sixteen public asylums for the insane with a capacity of 34,286 patients. As a matter of fact, according to the Report of the State Hospital Commission dated April 1, 1916, there are in these sixteen teeming institutions 36,187 patients, or 1,900 in excess of their actual capacity. These people have been declared insane by legal process, but outside the asylums' walls is an enormous number of insane persons, an active reserve, busily engaged in the service of recruiting this vast army of insane patients by constant propagation. Statistics, which we have no space here to reproduce, prove that they are having no difficulty in keeping up the supply, and in this lies the menace.

The law has decided, on grounds that are just and reasonable, that he only shall be declared insane who is incapable of perceiving the quality of his acts as being right or wrong. The extreme of rashness bears a near relation to insanity in that a rash man does not consider the consequences of his acts, though he recognizes their quality, for rashness may often be as deadly as insanity. Indeed, the law does recognize rashness as temporary insanity when it recognizes the condition of irresistible impulse.

Objection has been made to the restriction of offspring by legislative enactment, which is the only way to make such restriction effective and general, but the objectors fail to reflect that the body of the law busies itself with restricting our liberties and we have become so thoroughly reconciled to these restrictions that no one but a thief objects to the law punishing theft and no one but a traitor dreads the law against treason. Some additional restrictions have already been imposed upon those helpless people whom our inquiry contemplates. The insane are not allowed to vote, or to manage their own property, or to make a valid deed or a contract, or to execute a will. They are already dead in law and an administrator called a guardian is appointed to attend to their affairs as if they were already dead. A felon is restrained from holding offices of trust, and his rights of citizenship are taken away from him,— but he is permitted to marry. There was even formerly a law that after conviction a criminal should receive a pardon, if he could find a woman willing to marry him.

In addition to criminal and insane persons, there is another class which requires particular attention,— the feeble-minded. Feeblemindedness, or imbecility, needs to be scientifically considered and carefully defined before it can be subjected to the radical remedy which has been proposed. There are many degrees of feeblemindedness, which is perhaps always the result of some anatomical or cellular defect. If insanity may be defined as the exercise of the will

without the control of the reason, thus including for the moment alcoholic mania, temporary insanity and irresistible impulse, feeblemindedness may be considered as a state where both the will and the reason are variably but permanently impaired. The difficulty lies in defining the degree of feeblemindedness under the cognizance of the law. We spoke a moment ago of rashness. Irresistible impulse is the title given to that degree of rashness which extenuates crime, or which may be adduced or alleged in defence. But there are varying degrees of neglect or imperception of the consequences of one's acts. That quality is also present in foolhardiness, in lack of presence of mind, in lack of tact, and so on down to imprudence, absent-mindedness, and unintentional incivility. The neutral zone that lies safely between wisdom and feeblemindedness is the preferred and customary habitat of man. In considering the case of the feebleminded, the family and ancestral records must be consulted and a safe and acceptable rule established.

There are said to be about 150,000 feebleminded persons in the United States, averaging over 3,000 to each State, and it is already a serious problem what to do with them and for them. Schools for their instruction are provided by the State or by the munificence of individuals, where they may learn some simple handicraft which may meet their intellectual capacity. Consulting the Medical Directory, one gleans mention of 32 public institutions for their instruction in the United States, with a capacity of 23,568 inmates. These institutions are not erected and sustained for ornament, recreation or profit, and can house only one in five of this class. Moreover, they are not asylums for necessary or perpetual detention, but for instruction, and graduate their élèves when they become self-supporting. The sexual passions of these people are in no way impaired by the condition of their intelligence, and it is reported that between 30% and 40% of the public women of our cities are recruited from their ranks, which at least removes them from the fecund class. Feeblemindedness is always hereditary and those afflicted with it are as a rule very prolific. These facts are well established by the family histories that are kept as a part of the records of the Home for Feebleminded Children at Vineland, N. J., if it were not already a matter of common observation. And, indeed, neither record nor observation is needed when we reflect that animals which are not under the restraint of reason, of foresight, or of convention, are permitted the same privileges of breeding as the most perfect specimens of their race. In vain humanity, threatened with the paralysis of increasing imbecility, clamors for a little wise care that it may fulfill its true destiny. Feeblemindedness is a parasitic growth, a blight resting on mankind. It is an entire and perfect evil, a curse without compensation. Its prevention is in all ways profitable, having promise of the life that now is and of that which is to come,— the life of the race.

Habitual crime, insanity, imbecility and alcoholism are attended with certain distinctive stigmata. Each of these conditions has separate claims to consideration and must be considered by itself. Criminal instincts are not always inherited and not always trans-

mitted; insanity is often acquired and in some forms is quite curable. Such strains are perhaps not transmitted and much judgment must be exercised in selecting the proper persons for preventive treatment. Alcoholism, the so-called father of crime, is diminishing under the frown of public opinion and may be entirely stopped by restricting the manufacture of distilled spirits. But feeblemindedness is always transmitted and for its abolition there are only two methods known to social science,— isolation and vasectomy.

Many years ago when Dr. David Starr Jordan visited the Val d'Aosta in the Department of Turin, cretins were seen everywhere. In fair weather the roads swarmed with them; "human beings," as he writes, "with less intelligence than the goose, with less decency than the pig." Twenty years later, he passed through the same country again and could not find one for a sample. They had been separated and confined, the males apart from the females, and thus prevented from breeding, and, as cretins are shortlived, the inferior race had almost entirely disappeared. But, less cruel than the Scottish law and less obnoxious than perpetual isolation, is the method of sterilization suggested in 1903 by Dr. Rantoul and now adopted into legal use in several of the States of the Union. That the operation involves little risk of life is comparatively a trivial circumstance; the operation as a moral act, in depriving human beings of the faculty of procreation, must be justified before it can be adopted. The fact that in some States it has been adopted is an evidence that it has been thus justified. An evidence merely, for no act can be perfectly justified by example or precedent but by reason. Not even desirability is adequate justification.

"Nature," said Bacon, "can only be commanded by obeying her." This remark made a great impression on Sydenham's mind. If a physician or a surgeon disobeyed Nature, he would slaughter and not cure his patients. The farmer obeys Nature in selecting his seeds, the breeder in improving his stock. The elimination of the unfit is the constant effort of Nature, whose work can be hastened only by obedience to her plan and by imitation of her methods.

For Nature is made better by no mean
But Nature makes that mean. So, over that art
Which you say adds to Nature, is an art
That Nature makes.
This is an art
Which does mend Nature,—change it rather, but
The art itself is Nature.

Scientists have often denied a moral purpose to Nature, which is to deny that quality to man, since man also is a part of Nature. They affirm that the earthquake and the tornado have no conscience, that Etna did not spare Empedocles, nor Vesuvius, Pliny, and that Bacon met his death through a scientific experiment, which is to expect Nature to conform to our standard of values. It may perhaps be truer to affirm that Nature is never moved to action except for a moral purpose. Certainly, if Darwin's law as expressed in Spencer's phrase of the Survival of the Fittest be actually, as it seems, a purpose of Nature, we can readily detect a moral quality in it. Nor is the destruction of the unfit, as implied in that law, indicative of a cruel intent or of a cruel method of accomplishment. It is

simply inexorable, and in no other way that we can detect or surmise, could the perfection of any species be attained. Consider the horse, our best friend and next to the dog the dearest to us. Some distant philosopher will sometime write an essay on "The Influence of the Horse upon the Development of Modern Civilization,"— perhaps it has already been done — and will describe his remote ancestor, the protohippus, or the eohippus, a creature a little bigger than a rabbit, and will discuss the steps by which the unaided processes of Nature have evolved our noble friend and ally and brought him to his present perfection.

The world is getting small and there is no longer an undiscovered hemisphere to receive our teeming surplus. When Malthus grieved over the reflection that mankind was increasing in a geometrical, and the means of subsistence in an arithmetical, ratio, he could of course not foresee the day when Burbank would make thirty-six ears of corn grow where one grew before. But Burbank does not refute Malthus,— he only promises to postpone his conclusions,— and certainly with the increase of mankind the amount of soil available for agriculture must proportionally decrease. When Malthus wrote, the population of the United States was about three millions; now it is a hundred millions. If the same rate of increase continue, the middle of the coming century will see over three billion people in our country. This is incredible, but it is less incredible, if degrees of incredibility be granted, than the statement that might have been made in the Continental Congress that the single city of New York would, in 1916, contain twice the population of the whole thirteen colonies. It will do no harm to think this over and even to compute the number and proportion of insane, criminal, and feebleminded persons who will then live among us, whether unrestrained or as public charges, bearing in mind also to estimate their ratio of increase during the past half century and assume it to continue unchecked.

It is plain that sterilization of the unfit is a part of Nature's plan and that it is demanded in the interests of humanity and civilization. It is true that one must concede to every human being the right to live. The most defective, mis-shapen and abnormal unfortunates must be surrounded with every care,— with all the attention of love and all the skill of science. That is their inalienable right as human beings, and the greater their degradation the more urgent is their appeal. Human life must be considered sacred. It is not for us to sit in judgment and condemn a helpless infant to death for the mistakes or sins of his parents. But while maintaining the defective, and lavishing upon him every attention of defence and care, we must inflexibly forbid him the one act of propagating his infirmity. If this question involved merely economic interests, however enormous, we might leave it to the consideration of economists, but it involves nothing less than the future welfare of humanity, and the advance, or the stasis, or perhaps the recession of civilization. Is it in vain that those precise and terrible warnings have been spread before our eyes in the history of the so-named Jukes and Kallikak families? Not they alone, with their degraded and criminal progeny, are enemies of the human race, but those also who from neglect or a love of selfish comfort, refuse to remove the menace that confronts us.

Secretary's Page

The Nebraska State Medical Journal, the official organ of the Nebraska State Medical Association, made its debut in July and a likely youngster it promises to be.

This first number is devoted in a large measure to the transactions and reports of the 48th Annual meeting and should be of the greatest interest to the members of the Association.

The Journal is neatly printed on good white paper with cover of the same stock. The type is rather larger than usual.

The July Number carries 17 pages of high grade advertising that assure the financial success of the undertaking.

The hand of the Co-operative Medical Advertising Bureau of the A. M. A. can be clearly seen.

Although VERMONT MEDICINE is loath to lose its place as the last State Society owned Journal to be established, it extends the glad hand to its successor.

The Post-graduate work authorized by the last House of Delegates of the Vermont State Medical Society is now completed.

Between December 21st, 1915, and June 16th, 1916, 27 meetings were held in 7 Counties of the State.

The attendance and interest were as a rule very satisfactory. The speakers from within the Society put themselves to much trouble and expense to prepare for and attend these meetings and the men from outside the State, who so generously gave their services for the good of the profession deserve the sincere thanks of the Society.

They came to us and gave papers and held clinics that compare favorably with those that are given in regular post-graduate courses in the metropolitan Colleges.

The next House of Delegates should take some formal action to show our appreciation of their valuable services.

The following is the program as carried out in the various County Societies:

Addison

Dr. W. W. Townsend of Rutland, Jan. 4th, 1916.

Mr. W. S. Fenton of Rutland, Feb. 3d, 1916.

Dr. P. E. McSweeney of Burlington, March 3d, 1916.

Dr. B. H. Stone of Burlington, May 4th, 1916.

Bennington

Dr. C. H. Beecher of Burlington, Dec. 28th, 1915.

Dr. R. E. Smith of Rutland, Feb. 4th, 1916.

Caledonia

Dr. P. E. McSweeney, Jan. 10, 1916.

Dr. C. H. Beecher, Feb. 8th, 1916.

Dr. W. W. Townsend, April 4, 1916.

Chittenden

Dr. C. F. Ball of Rutland, Jan. 27th, 1916.

Mr. W. S. Fenton of Rutland, Feb. 24th, 1916.

Dr. W. G. Ricker of St. Johnsbury, March 30th, 1916.

Dr. W. S. Bainbridge of New York, April 27th, 1916.

Dr. C. A. Porter of Boston, May 25th, 1916.

Lamoille

Dr. W. G. Ricker of St. Johnsbury, Dec. 23d, 1915.

Dr. R. E. Smith of Rutland, Jan. 25th, 1916.

Dr. H. C. Tinkham of Burlington, Feb. 24th, 1916.

Dr. C. F. Dalton of Burlington, March 28th, 1916.

Dr. J. H. Gile of Hanover, N. H., April 25th, 1916.

Rutland

Dr. P. E. McSweeney of Burlington, Dec. 21st, 1915.

Dr. H. S. Goodall of Bennington, Jan. 11th, 1916.

Dr. C. H. Beecher of Burlington, Feb. 21st, 1916.

Dr. Thomas Ordway of Albany, N. Y., March 14th, 1916.

Dr. A. W. Elting of Albany, N. Y., April 11th, 1916.

Washington

Dr. W. W. Townsend of Rutland, Dec. 14th, 1915.

Dr. F. B. Lund of Boston, March 14th, 1916.

Dr. R. E. Smith of Rutland, June 16th, 1916.

The subjects covered by these lectures and clinics include Internal Medicine, Genito-urinary Diseases, Pathology, Cancer, Legal Medicine, Tuberculosis, Diseases of the Nose and Throat, Obstetrics and General Surgery.

The following is a partial list of Speakers for the coming 103d Annual Meeting at St. Johnsbury:—

President, Dr. E. H. Ross, St. Johnsbury.

Vice-President, Dr. C. W. Bartlett, Bennington.

Oration in Surgery, Dr. Ellsworth Eliot, New York.

Oration in Medicine, Dr. J. R. Williams, Rochester, N. Y.

Dr. G. R. Anderson, Brattleboro.

Dr. A. H. Bellerose, Rutland.

Dr. C. J. Rumrill, Randolph.

Dr. J. B. Wheeler, Burlington.

Announcements for clinics, speaker under the Trust Fund and Evening Address will be made in the September issue.

The following names should be added to the 1916 Roster of the Society:

Chittenden County

Dr. F. E. Clark, Burlington.

Dr. D. A. Shea, Burlington.

Rutland County

Dr. R. H. Miner, Windsor.

Dr. F. H. Everett, Castleton.

Dr. A. C. Norton, Middletown Spgs.

Windham County

Dr. J. J. Brosnahan, Brattleboro.

This makes the total paid-up membership 390.

The American Academy of Medicine adopted a resolution authorizing the appointment of a committee to be known as the "social insurance committee," whose duty would be to make careful study of the problem of social insurance, especially those phases known as health insurance, industrial insurance, accident insurance, mothers' insurance, and insurance against non-employment, and that this committee be requested to submit a preliminary report dealing with health insurance and its relation to physicians to the executive committee before December 1, 1916.—*Public Health Reports,* July 21, 1916.

Progress in Medical Science

SURGERY

ANTISEPSIS.

The various journals contain many articles upon the subject of Antisepsis, the result of the present war with its numerous badly infected wounds.

It seems as if many of our present beliefs regarding asepsis and antisepsis would have to be modified.

In ordinary surgery the use of Tr. of Iodine to prepare the field of operation is eminently satisfactory, but in badly infected wounds iodine has proven unsatisfactory, for it does not show the necessary diffusibility.

Ointments containing various antiseptics have been injected into wounds as a first aid dressing and give promise of great value. Tricresol and Thymol (10 per cent of each) in castor oil 70 per cent, white wax 20 per cent and Spermaceti 10 per cent is one of such mixtures that has worked well.

Malachite Green ½ per cent and Bichloride ½ per cent in 80 per cent Spirit cleans up the sloughs and stimulates the epithelium, in this latter respect acting rather like Scarlet Red. Why these dyes should stimulate epithelial growth is not explained.

"The New Antiseptic" (so-called) of Dakin (Dakin's fluid) is a mixture of sodium carbonate and chlorid of lime in tap water, with boric acid added later to prevent the irritating action of free caustic alkali. It is thus similar to Labarraque's Solution.

We do not yet know a single substance which is capable of sterilizing a suppurating wound. Many of the antiseptics are injurious to the cells fully as much as to the bacteria, and we must rely on continuous irrigation to wash away the bacteria in many instances.

Arsenobenzol has proved very useful in the treatment of gangrenous wounds, both as a local application and when used intravenously. It is really a specific when the infection is due to spirilla.

Bichloride is rendered inert by the admixture of blood, pus, lymph, mucus, or other albuminous material, the insoluble albuminate of mercury being formed. Thus solutions of this antiseptic, so often used to syringe out suppurating wounds or to irrigate cavities lined with mucous membrane, have no antiseptic value beyond the mechanical washing out of the material, which can be better secured by sterile water or salt solution.

Gasoline is an antiseptic long used by some men but only recently hailed as a discovery by others. It is about as valuable as Tr. of Iodine; and in these days of automobiles is frequently the only antiseptic available in an emergency. Its inflammability is a great drawback and it will blister if confined where it cannot evaporate.

Fifty per cent alcohol is a good antiseptic, but, strangely enough, absolute alcohol is nearly devoid of such action, therefore we must reduce the alcohol one half with water if we wish antiseptic action. This should be remembered when using alcohol for a hasty sterilization of a hypodermic syringe, for example.

To kill microbes in a test tube is easy, but the problem is entirely different when we attack them in the tissues. The body cells, and especially the leucocytes, are most important as destroyers of bacteria, thus preventing or curing infection. If antiseptics do not destroy *all* the bacteria in a wound and if they cause profound alterations in the anatomic elements, the results may be injurious to the patient.

Moreover, partial destruction of the microbes may be overbalanced by a lessening of the means of defense.

Continuous irrigation or the continuous bath of saline or other non-toxic substances gives remarkable results.

L. A.

PATHOLOGY AND BACTERIOLOGY

THE SCHICK REACTION

Natural immunity is the protective effort on the part of Nature to immunize the system against the invasion of infectious organisms. In health this immunity extends over a considerable period of time—against some organisms for years, while against others it is more transitory. Recent investigations seem to

demonstrate that this natural immunity, in so far as diphtheria is concerned, is at its best in early child life, with its protective properties waning up to early adult life. Acquired immunity is produced by the injection of anti-bodies secured from some other animal having had the disease. In diphtheria the anti-bodies, as anti-toxin, are secured from horse serum.

Within the past two years much has been done with the test devised by Schick to determine whether diphtheretic anti-bodies, i. e., immunizing bodies, are still present in exposed cases or not. This test will determine equally well whether the anti-bodies are still present from a natural source or from an acquired immunity. Schick used 1-50 of the minimal lethal dose of toxin for a guinea pig weighing 300 grams. This amount of toxin is injected into the skin of all exposed individuals. Those cases reacting to the sub-cutaneous injection, by their reaction, demonstrate that the individual does not possess sufficient anti-toxin to neutralize the toxin injected, the unneutralized toxin being the irritant producing the reaction. Neff, abstracting Schick's article published in 1913, describes a successful injection as follows: "With a successful injection, one sees immediately a white, wheel-like elevation with a punctate design corresponding to the mouths of the hair follicles. Following the central infiltration of the toxin solution, there usually develops in from twenty-four to forty-eight hours a somewhat lighter red areola which, after a further twenty-four to forty-eight hours, fades without pigmentation. There remains then, the central part, distinguishable through its pigmentation, so that in the later stages the area of the central infiltration corresponds to the diameter of the pigmented part of the skin. At the end of one week the scaling and pigmentation are characteristic. An inflammatory reaction at the site of injection occurs in some individuals in spite of the anti-toxin content of their blood. Definite conclusions then can only be drawn by the negative outcome of the reaction, which proves the presence of anti-bodies in sufficient quantity for prophylaxis."

It can be readily seen however that such a test is of inestimable value in public work where large numbers of individuals are concerned. It also has marked advantages for private use, and there are frequently instances where it is undesirable to administer anti-toxin unless absolutely necessary. Aside from the desirability of the test from a medical standpoint it also has weight from a financial standpoint, as there are a large number of persons, approximately 50 per cent, who possess a natural immunity, and anti-toxin injected into these cases is not only useless and painful, but expensive in the aggregate.

While the test is not infallible, there being at times variations, it does, however, possess many points of advantage. Levison and Blatt have shown that the test is not influenced by an associated tuberculin skin test. Moffett and Conrad, in an article dealing with their observations in 455 infants and children, arrive at the following conclusions, which are fairly representative of all investigations:

"1. The Schick reaction differentiates doubtful membranes of the throat.

2. It tests the efficiency of anti-toxin immunization power.

3. It is of great value in institutional epidemics, in which it lessens the amount of anti-toxin used one half, as will be seen by the foregoing figures.

4. It differentiates susceptible from non-susceptible cases.

5. It shows a striking similarity in reaction in families, and indicates that immunity is a family condition, as shown by fifteen instances under our observation.

6. It lessens the great yearly expenditure for unnecessary anti-toxin."

Kohlmer in an article dealing with pseudo-reactions advises the use of a 1-10 to 1-100 dilution of the simple bouillon as a control, especially when running the test on associated measles or scarlet fever cases. In all cases tested without the control bouillon he claims that there are a few giving an uncertain reaction with a twenty-four hour reading. These cases should receive anti-toxin as though definitely proven to be non-resistant as then any error would be on the side of safety. He agrees with Moffett that the Schick reaction reduces anti-toxin expense practically 50 per cent.

NOTE.—At least one of the leading biological houses is putting out a "Schick Test" outfit readily obtainable direct or through local drug houses. C. F. B.

TUBERCULOSIS

The X-ray in the Treatment of Pulmonary Tuberculosis

Kuepferle and Bacmeister, in the *Deutsche Med. Wochensch.*, XLII, Jan. 27, 1916, present a very interesting report on the use of the X-ray in tuberculosis of the lungs. Two or three years ago they reported the experimental use of the Roentgen ray on a series of rabbits which had been rendered tuberculous. The results were not very good at first, but later with larger doses at shorter intervals the results were remarkable. Tuberculous processes were caused to heal in many instances; though the tubercle bacilli were not killed. The most useful dose *for rabbits* proved to be from 20 to 23 X surface energy, repeated every three to five days.

Owing to the very favorable outcome of these experiments Bacmeister has tried X-ray therapy in his clinic and sanatorium, using hard filtered rays. He reports twenty cases of pulmonary tuberculosis without fever or other signs of activity and with more or less tendency to latency, as well as a number of febrile and chronically progressive cases, in which the X-ray treatment has been used. In practically all the cases more or less benefit is apparent. Ten cases, of the febrile or chronically progressive type, have finished the course of treatment. All appear clinically cured. Three of these cases had been under observation for five, eight and fourteen months, respectively, without any appreciable decrease in the activity of the disease before the X-ray treatment was begun. From clinical as well as experimental data, it seems that the X-ray acts only on tuberculous granulation tissue which is growing with moderate rapidity. Violent tuberculous processes, and those which are destroying tissue rapidly, as well as cheesy deposits are but slightly, if at all, influenced by this form of treatment. Although lesions may heal and the case become apparently well, yet the tubercle bacilli in the tissue are not killed any more than they are in an apparent cure under other forms of treatment.

In order to obtain the best results, the dosage and frequency of administration must be correct and the usual hygienic and dietetic treatment with proper rest and exercise must be carefully followed. This treatment is thought to be promising for a lung compressed by induced pneumothorax, or after thoracic surgery, especially when combined with the mercury lamp treatment.

Bovine infection through milk, etc., is responsible for 35 per cent. of tuberculous lymph nodes in children under five years of age, but it almost never causes pulmonary tuberculosis. Milk should be pasteurized as tuberculosis among cattle is increasing. Advanced cases of tuberculosis should be cared for in suitable institutions.

["Tuberculosis, A Review," H. M. Biggs. *N. Y. Med. Jr.*, Jan. 22, 1916.]

H. S. G.

OBSTETRICS

Too many physicians consider that they have performed their duty in the case of the parturient woman, when they have brought her safely through the delivery. The three weeks post partum are a most important period in the woman's history. Retroversions, prolapses, subinvolutions, etc., all may be the direct result of improper treatment at this time. The routine use of the knee-chest posture for at least three weeks following delivery, has proved a very efficient means for preventing these conditions. An early return to the semi-recumbent, or sitting position, gymnastics even while confined to the bed, proper attention to the bowels,—all tend to an early return of the patient to the normal.

A. C. Beck, in the *Journal of Obstetrics*, outlines a course of gymnastics for these cases under the caption of, "Exercise on all fours as a means of preventing subinvolution and retroversion." Beck's patients are instructed to assume a position on all fours, knees rigid, and from the ninth day post partum, walk increasingly longer distances while in this position. He claims greater benefits from this exercise than from the knee-chest position alone.

The question of treatment in eclampsia is no less a disputed subject than is the etiology

of this same condition. The consensus of opinion among the more eminent obstetricians would appear to be that immediate emptying of the uterus is the wisest and safest procedure. Knipe and Donnelly of Philadelphia believe that a more rational procedure is that of medicinal measures. They report a series of eighty-three cases treated in the University Maternity, and, after a comparison with the mortality statistics of a number of other hospitals and authors, claim that the method outlined by them shows better results than is reported by the operative treatment. The treatment is given as follows: Lavage of the stomach; 2 ounces of castor oil given through the stomach tube; twenty to thirty minutes' sweat in the sweat cabinet; hypodermic of morphia, gr. ½, is given if the convulsions are violent or frequent; hypodermoclysis after the first sweat, followed by proctoclysis midway between subsequent sweats; venesection if systolic blood pressure is over 180 and more particularly, if the diastolic pressure is high; an initial dose of 10 minims of veratrum viride followed by nitroglycerine gr. 1-100 at four hour intervals. Puncture of membranes if pregnant or in labor and abstention from all operative interference to hasten delivery, which is usually terminated in from eight to ten hours. I have given this verbatim. In a large hospital where everything is ready for operative intervention, should such prove needful, this method might be carried out with safety to mother, child and physician, but in private practice we believe that the emptying of the uterus in the shortest possible (i. e. with safety) time will give the most satisfactory results. The babies delivered from these eclamptic mothers are invariably below par and possessed of but little vitality. Their chances of life are small at the best. The dangers to the mother from delay seem, to us, to much out-weigh the possible benefits medicinal treatment may give. If the woman is eclamptic, but not in convulsions, delay is justified, but where convulsions are present—"remove the causative factor." Caesarian section may be performed if the cervix is elongated and undilatable (personally we have never seen a cervix in a condition of eclampsia but that was softened and easily dilated). If the cervix is dilatable, manual dilatation and version will save the child, if it is possible. Empty the uterus and in the majority of cases the convulsions will cease. If the convulsions last for more than six hours following delivery the prognosis is bad. Medicinal treatment after delivery is of great value.

R. E. S.

Propaganda For Reform

Aromatic Spirits of Ammonia.—This is an old-fashioned complex mixture. Its reputation has little scientific basis. Its effects probably are psychic, in the main. Such effects might be expected from the irritation of the nasal mucosa by the ammonia and the flavor and odor of the lemon, lavender and nutmeg oils. The physical effect is probably due to the alcohol, though the ammonium carbonate and uncombined ammonia may have some restorative action by the irritation of the gastric mucosa or by their neutralization of nauseating acids in the stomach. When the effects of ammonium carbonate are desired, this is better given in aqueous solution. When the effects of alcohol are desired, whiskey is to be preferred (*Jour. A. M. A.*, July 1, 1916, p. 65).

The Pharmacopoeia Revision.—As usual the Pharmacopoeia about to be issued will be antiquated when it comes out. Some of the drugs in it will have become more or less obsolete, while many new ones which have proven of value will not be there. Since all the publications of the A. M. A. are issued promptly and in excellent style, and are complete, correct and up to date, it is suggested that the U. S. P. should be taken over by the A. M. A., and be henceforth published by it. It may be extreme to say that the world would be almost as happy without a Pharmacopoeia, but at least we could get along very nicely with a Pharmacopoeia about one half the size of the present one. A good deal of the matter it contains is quite superfluous and its deletion would prove distinctly advantageous (1) to the book, (2) to the medical profession, (3) to the pharmaceutical profession and (4) last but not least, to the students of medicine and pharmacy (*Critic and Guide*, July, 1916, p. 239).

Wine of Cardui Verdict.—Anent the verdict

in the recent "Wine of Cardui trial" awarding one cent damages to the Chattanooga Medicine Company, a medical journal offers condolences to the American Medical Association, declares that the verdict is "a very decided victory for the 'patent medicine' association," and asks "is publicity the way to accomplish the true end?" The outcome of the case was a moral victory for the Association and publicity is the only rational means of attacking the nostrum evil, whether of the "patent medicine" or of the "ethical proprietary" variety. Until the public is given definite and specific facts no great strides will be made in preventing unscrupulous cupidity from preying on the sick and suffering. The faith of the public in patent medicines of all sorts continues because no small part of the medical profession is itself still under the blight of the "patent medicine" business—albeit the preparations in question are euphemistically spoken of as "ethical proprietaries" (*Jour. A. M. A.*, July 15, 1916, p. 206).

Cocaine Substitutes.—Treasury Decision 2194 places "alpha and beta eucaine or any of their salts or any synthetic substitute for them" under the provisions of the so-called Harrison Narcotic Law. To this ruling, the Farbwerke-Hoechst Company, the manufacturers of novocain, a synthetic substitute for cocain, took exception and, by agreement, a test case was argued before the United States District Court of New York. It is reported that the court took the case from the jury and ordered a verdict for the Farbwerke-Hoechst Company on technical grounds (*Jour. A. M. A.*, July 15, 1916, p. 208).

Phenol Antidotes.—Various substances, fixed oils, glycerin, diluted sulphuric acid, the soluble sulphates of the alkalies and alkali earths, have been recommended as antidotes or prophylactics of phenol poisoning. M. I. Wilbert discusses the value, or lack of value, of the various re-agents proposed as antidotes to phenol poisoning. He points out that glycerin will not prevent the production of gangrene or the absorption of phenol. Wilbert points out that the other substances mentioned have been found inefficient as detoxicants for phenol, and in many instances distinctly harmful. He further uotes that, while the value of alcohol as an antidote for phenol poisoning has been scientifically disproved, yet even as late as 1915, the fallacy that ethyl alcohol is an antidote to phenol has been embodied in state laws designed to restrict the sale of phenol. Recent investigation, carried out in the Hygienic Laboratory, shows that in the presence of water neither alcohol nor glycerin has any detoxicating effect on phenol (*Jour. A. M. A.*, July 15, 1916, p. 233).

Poisoning from Lead Paints.—The reports of the British departmental committee, appointed to investigate the dangers of the use of lead compounds in the painting of buildings, shows the principal source of poisoning to be dust, produced during the mixing of dry white lead with oil and in the dry rubbing down process. While the first danger is done away with by the use of ready mixed paints, the committee propeses drastic legislation to remedy the second evil. The committee recommends the enactment of a law prohibiting the importation, sale or use of any paint material containing more than 5 per cent of its drug weight of soluble lead compounds (*Jour. A. M. A.*, July 15, 1916, p. 234).

Poisonous Properties of the Garden Daffodil.—The bulbs of the garden daffodil (known botanically as Narcissus pseudonarcissus) contain an alkaloid (or alkaloids) whose physiologic action differs according to the stage of growth of the plant. The alkaloid extracted from the flowering bulb produces dryness of the mouth, checks cutaneous secretions, dilates the pupil, quickens the pulse, and slows and weakens the heart contractions. The alkaloid extracted from the bulbs after flowering produces copious salivation, increases cutaneous secretion, contracts the pupil, and produces slight relaxation of the pulse, slight faintness and nausea. Such widely divergent physiologic effects indicate that there must be considerable differences in the nature of the alkaloids at the different times mentioned. Since the daffodil is so common in gardens it might be well to consider it in poisonings of mysterious origin. (*Jour. A. M. A.*, July 22, 1916, p. 290).

Hexamethylenamin in Anterior Poliomyelitis.—It has been shown that hexamethylenamin has no germicidal activities, except in an acid medium. Therefore, it is of special value only in infections of the pelvis, of the kidney, ureters, bladder and uretra when the urine is acid. It cannot be expected to exert germicidal activity in the spinal fluid, which is alkaline,

and hence is of no value in the treatment of anterior poliomyelitis (*Jour. A. M. A.*, July 22, 1916, p. 309).

Quality of Sodium Sulphite.—Investigation has shown that while the crystallized sodium sulphite is unreliable, the dried or desiccated form of sodium sulphite is generally of good quality and relatively permanent. A. H. Clark reports experiments showing that specimens of desiccated sodium sulphite keep for years with little deterioration (*Druggists Circular*, July, 1916, p. 396).

New and Non-Official Remedies

During June the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Abbott Laboratories:
GALACTENZYME TABLETS
GALACTENZYME BOUILLON

Schlesinger Radium Co.:
RADIUM BROMIDE
RADIUM CARBONATE
RADIUM CHLORIDE
RADIUM SULPHATE

Vitalait Laboratories:
VITALAIT STARTER

* * *

Enteric Coated Glycotauro Tablets:—Each tablet contains glycotauro 2 grains and is coated with salol. Hynson, Westcott and Co., Baltimore, Md.

Petroagar:—Each 100 gm. contains petrolatum 72 gm., agar 22 gm. with powdered licorice, cocoa and oil of anise sufficient to flavor. H. C. Merker Co., Chicago, Ill.

Petrobran:—Each 100 gm. contains petrolatum 74 gm., bran 22 gm, with powdered licorice and "oil of pineapple" (ethyl butyrate) sufficient to flavor. H. C. Merker Co., Chicago, Ill. (Jour. A. M. A., June 10, 1916, p. 1857.)

* * *

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

E. R. Squibb & Sons:
Solution Hypophysis—Squibb;
Roberts' Occult Blood Test—Squibb;
Ampules Mercuric Salicylate—Squibb, 0.065 gm.
Ampules Quinine Dihydrochloride—Squibb, 1 gm.
Ampules Quinine Dihydrochloride—Squibb, 0.5 gm.
Ampules Quinine Dihydrochloride—Squibb, 0.25 gm.
Ampules Quinine and Urea Hydrochloride —Squibb, 1 gm.
Ampules Quinine and Urea Hydrochloride —Squibb, 0.5 gm.
Ampules Quinine and Urea Hydrochloride —Squibb, 0.25 gm.
Ampules Quinine and Urea Hydrochloride —Squibb, 1 per cent.
Ampules Sodium Cacodylate—Squibb, 0.13 gm.
Ampules Sodium Cacodylate—Squibb, 0.05 gm.

Standard Radium Solution for Drinking (1 microgram Ra).—Each bottle (60 Cc.) contains radium chloride equivalent to 1 microgram Ra, and 1.3 mg. of barium chloride. The solution contained in one bottle is taken after each meal. The Radium Chemical Co., Pittsburgh, Pa. (*Jour. A. M. A.*, July 1, 1916, p. 35).

Radium Bromide, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Carbonate, Schlesinger Radium Co. —It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Chloride, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo.

Radium Sulphate, Schlesinger Radium Co.—It complies with the standards of N. N. R. and is sold on the basis of its radium content. Schlesinger Radium Co., Denver, Colo. (*Jour. A. M. A.*, July 8, 1916, p. 121).

Vitalait Starter.—A culture in vials of the Bacillus bulgaricus and the Streptococcus acidi

Lactici in symbiosis. It is intended for the home preparation of fermented milk. Sufficient to prepare from 1 to 3 quarts of fermented milk is sent on request of the physician to the patient twice a week. The Vitalait Laboratory, Inc., Newton Centre, Mass. (*Jour. A. M. A.*, July 15, 1916, p. 203).

POST-GRADUATE COURSE AT BURLINGTON

The fifth number of the post-graduate course of clinics and lectures of the Burlington and Chittenden County Clinical Society was held at Burlington, Thursday, May 25th, by Dr. C. A. Porter of Boston. Besides the members of the local Society, there was a good attendance of physicians from various parts of the State.

A clinic was held in the morning by Dr. Porter at the Mary Fletcher Hospital. Two operations were performed, a thyroidectomy and an appendectomy. The first patient had a large cystic goiter, filled with a yellow, creamy, gritty fluid. It extended far back under the sterno-mastoids, displacing the left carotid artery outward and backward. A most difficult dissection was very skilfully done, in the course of which about three inches of the internal jugular vein was resected. The second patient had a chronically inflamed and densely adherent appendix, with symptoms resembling those of gall-stones.

In the evening Dr. Porter gave an address at the College of Medicine, on Surgery of the Thyroid Gland. The subject was treated with great thoroughness and in a very interesting manner. It is expected that the paper will appear in the September number of VERMONT MEDICINE.

News Notes

Dr. E. H. Martin of Middlebury, who has been ill for several weeks, has gone to Greensboro to recuperate.

The remains of Dr. Charles A. Bailey, whose death occurred several months ago at his home in Los Angeles, Cal., were brought to Montpelier, his former home for many years, for burial in Green Mount cemetery.

Dr. Carl F. Robinson, a 1916 graduate from the College of Medicine of U. of Vt., has located in Williamstown.

Dr. Henry L. Wilder of Burlington has moved his office and residence from South Union Street to the house which he purchased recently on North Winooski Avenue.

Dr. J. C. Breitling, formerly of Lunenburg, now of Temple, Texas, is with the Medical Corps on the Mexican border. His wife and son remain in Temple.

Dr. Charles P. Fleming, who has been in St. Vincent's Hospital, New York, the past year, will practice in West Rutland.

Dr. A. J. Valleau of Morrisville has been with his family at Marblehead Beach, Mass., for a few weeks. The family will remain for several weeks.

Dr. E. F. Hodges died recently at his summer home, "Glimmerstone," in Cavendish and the remains were taken to his home in Indianapolis, Ind., for burial. His widow and son, Fletcher, accompanied.

Dr. Henry W. Bacon, who for the past two years has been practicing in Corinth, has gone to Chelsea to locate.

Dr. W. R. Rowland of East Corinth was an important witness for the State in Orange County court in the case of State vs. Otis Williams, charged with the murder last April of Joseph Felch of Topsham, in alleged complicity with Felch's wife.

The Physicians' Alumni Band Association went on its annual week's outing early last month to the Adirondacks. The band is composed of 35 doctors, nearly all graduates of the College of Medicine of the University of Vt.

Dr. Samuel E. Allen, of White River Junction, who was convicted July 20, 1911, and sentenced to prison for a term of from five to eight years for performing a criminal operation, and who was conditionally pardoned July 21, 1912, by Gov. John A. Mead, has been arrested for breaking the terms of this parole.

A warrant having been issued by Gov. Charles W. Gates, Doctor Allen will now serve out seven years in the Vermont state prison at Windsor.

Dr. B. D. Adams of Burlington has gone to New York City to do post-graduate work. Later he will go to Rochester, Minn.

Dr. E. O. Chellis, who recently removed from Springfield to Rutland, Vt., is occupying the offices of the late Dr. M. R. Crain.

From Our Exchanges

POLIOMYELITIS.

Summary of Article

Reviewing briefly the data and considerations which have been discussed, poliomyelitis is due to a specific infective agent, of which the only demonstrated natural sources are infected* human beings, who may be divided into the following groups: The recognized sick, convalescents, the sick not recognizable as poliomyelitis cases, and passive virus carriers apparently in good health. The infective agent is known to be discharged from these sources in the excretions of the respiratory and digestive tracts; it is known to be fairly resistant to the destructive agencies encountered in nature outside of the human body. Perhaps the most significant fact in regard to the experimental transmission of poliomyelitis to monkeys is that they may be infected by rubbing the virus on the nasal mucous membrane. Infection through the digestive tract or through the agency of biting insects has been found more difficult and less constant.

The disease is, in nature, of widespread though rare sporadic or endemic occurrence. In epidemics it has occurred in recent years over a large part of the world, the outbreaks being some-

*Under the term "infected human beings" as used here are included passive carriers of the virus, persons in whom the virus has found lodgment and multiplied, without however, producing clinically evident effects. Such persons should, perhaps, be called "infested" rather than infected, reserving the latter term for those manifesting a clinical reaction.

times discrete, at other times spreading rapidly, but irregularly, over wide areas. Such epidemics characteristically run a rather rapid course in a given community, declining after a few months or less, after having attacked (so far as is evident) only a small proportion of the total inhabitants, usually not more than one in a thousand; and do not recur in the same locality for a period of at least two years. In epidemic foci children under 5 are attacked much more often than are older persons, the whole adult population remaining virtually immune in some epidemics.

The rapid spread of epidemics over wide areas, their spontaneous decline after only a small proportion of the inhabitants have been attacked, and above all the preponderating incidence in young children have not been satisfactorily explained by any hypothesis other than that the infective agent, during epidemics, is widespread, reaching a large proportion of the population, but only occasionally finding a susceptible individual, usually a young person, in whom it produces characteristic morbid effects. Assuming this rare susceptibility, the well-established facts collected by epidemiologic studies are compatible with the evidence of laboratory experiments that the disease is directly transmissible from person to person.

As to what constitutes susceptibility or the converse—immunity—practically nothing can be deduced except that age is obviously a factor of importance, susceptibility being generally greatest in the first half decade of life, thereafter progressively diminishing until in adult life there is a very general immunity to natural infection. The reason for this is at present a matter of speculation. Conceivably the greater immunity of adults may be due to a non-specific resistance, developing naturally with maturity, without reference to previous exposure to or infection with the specific virus of poliomyelitis. On the other hand, there are certain facts which suggest that the very general immunity of adults may be specific, acquired from previous unrecognized infection with the virus of poliomyelitis. This, however, is at present merely a speculative suggestion—By W. H. Frost, Passed Asst. Surg. U. S. P. H. Service, in *Public Health Notes,* July 14, 1916.

IRITIS

E. E. Irons and E. V. L. Brown, Chicago (*Jour. A. M. A.*, June 10, 1916), have studied a hundred patients with non-traumatic iritis with special reference to the etiology. Forty-seven of these were private cases, the others clinical cases. Careful attention was given to the history and a complete physical examination to detect the presence of syphilis, tuberculosis, gonococcal infections and local infections of teeth, tonsils, sinuses, prostate, and pelvic or other structures, that might give rise to trouble in the joints or eyes. Laboratory examinations included Wassermann tests (ninety-eight patients) controlled by two laboratories, complement fixation tests for gonorrhea, roentgenograms of teeth, of sinuses and of the lungs, cultures of pus from tonsils, sinuses, prostate, etc. Tuberculin tests were made in suitable cases. Measures were taken to remove all infections so far as possible and the course of the iritis following these gave valuable testimony as to the etiology. Two or more infections were present in a large number of patients, but by careful weighing of the evidence they were able to judge of the responsible infection in most cases, but in a few cases this could not be fully done, and these were placed in a "combined" group. The causes are given in tabulated form. I. The relation of syphilis to iritis is taken up. There were thirty-nine cases in which syphilis was present or had been,

all with a positive Wassermann. Sixteen of the cases, however, are not considered as due to this cause, on various grounds. In none of them was the disease an active one, and the treatment caused the subsidence of the iritis when directed to the appropriate cause other than syphilis. The authors hold that in the absence of other evidence of active syphilis in a patient with iritis, the assumption that the case is a syphilitic one is more likely to be wrong than right. Dental and tonsillar infection played an important part, there being seven cases credited to each of these alone and a much larger number in which they existed with other infections. Gonococcal infection was believed to be the cause of iritis in nine patients, all male. In seven of the nine it was the only infection present. In eight patients tuberculosis was credited, though this disease also coexisted with syphilis in other cases, as did also focal, dental and tonsillar lesions, etc. Sinus infection was credited as the cause in three cases, and in three others the iritis was associated with non-venereal disorders of the genito-urinary tract. In seventeen patients the causes were given under the head as of combined infections. Focal infections are very frequent, but iritis is a rare result. Bacteria reach the eye through the circulating blood, and experiments by the authors have shown that iritis can be produced by the intravenous injection of various bacteria. From the clinical study and experiments so far, it would appear that not one but several factors are concerned in the production of iritis, such as the presence of an infective focus, the periodic entrance of the germs into the blood stream and their lodgment in the eye owing to embolisms, changes in the eye itself, or changes in the organism rendering it more capable of maintaining itself in the eye tissue. Such adaptation on the part of the organism does not necessarily imply any demonstrable change in its morphology or cultural reaction.

RURAL HEALTH — AMERICA'S FIRST DUTY

Washington, D. C., July 14.—"The estimated economic loss which our nation suffers each year from typhoid fever and malaria alone aggregates $928,234,880, leaving out of entire account the sorrow, the unhappiness, the misery, and the inefficiency which follow in their train." Senator Joseph E. Ransdell of Louisiana today addressed the Senate on the subject of "Rural Health — America's First Duty." "The greatest asset which our country can have" said Senator Ransdell, "is the healthy American citizen, and valuable as it may be to increase the health of livestock and vegetation, it is of far greater importance that we throw every possible safeguard about the health of the man who is responsible for that livestock and vegetation. Over 900 million dollars lost every year! A sum which is sufficient to put our country into a state of preparedness equal to that of any nation in the world, enough money to give us the largest navy afloat and the most efficient army which the world has even seen, is annually offered up as a sacrifice to two diseases which are entirely preventable. Enough money to pay the annual expenses of every college student in the United States is absolutely thrown away every year." Senator Ransdell estimates the grand total loss from typhoid fever at $271,932,880 per annum, and the loss from malaria at $694,904,750 per year; the total per capita loss from these two diseases being $9.46. By comparative estimates it was shown that the United States Government appropriated $5,016,175 for the investigation and prevention of the diseases of animal and plant life and only $1,917,566 for the investigation and prevention of the diseases of man.

DISEASE DANGERS OF WAR WITH MEXICO

Two years ago *The Journal of the American Medical Association* discussed the sanitary problems which must be met if our troops should have to go into Mexico for any length of time. "Today," says *The Journal* for June 24, 1916, "these problems should be considered again. The state militia is mobilizing; large bodies of men are already being concentrated in camps and soon perhaps some will be moving to the Mexican border, if not into Mexico. The guarding of the border is likely to be the duty which will fall particularly to the militia and less trained troops. Actual

invasion, if it should come, will no doubt devolve on the regular army.

"Typhoid and smallpox vaccination have practically removed the menace to life from these diseases under military conditions. The militia, however, has not been immunized against typhoid even approximately to the extent that the regular army has been vaccinated. The danger from dysentery, which is still a menace to men in army camps, has been materially lessened through improvements in the preservation and protection of foodstuffs and through increased facilities for the transportation of supplies. Amebic dysentery may be prevented by strict supervision of water supply and filth disposal. The use of emetin in the treatment of this condition will aid in rapidly eradicating such cases as may occur. Malaria and yellow fever, conquered through eradication of the mosquito and prevention of mosquito bites, are no longer to be feared. Cholera, preventable by cleanliness, and typhus fever, the scourge of Mexico, also have been studied, and their prevention can be accomplished by the enforcement of adequate sanitary regulations.

"The sanitation of camps has developed into a science. In the development of this science American investigators — many of them officers of the medical corps of the United States Army and of the Public Health Service — have led the way, and they may be depended on to carry out these measures to the fullest extent. Typhus fever is particularly a Mexican problem. It has been a factor in the present European war, and the measures instituted abroad show how completely this disease may be controlled. Much has been said in connection with the European war of gas gangrene, tetanus and secondary wound infection. The frequency of these infections has been attributed to the cultivation of the soil in the region in which the war is being conducted. If this be the cause, this condition is certainly not to be feared in Mexico. Much of the warfare in Europe has been trench warfare, and diseases peculiar to this method of warfare have frequently been discussed. The problem in Mexico would appear to be a different one. In any event, it hardly seems likely that the old saying that 'disease kills more men than bullets' will hold true.

"We can be sure that American medical officers of every branch of the service will do all that is humanly possible to protect our soldiers in the field. As a result of their service, the American soldier will be safeguarded so that the maximum number of efficient fighting units will be continually available to those concerned with the action of troops at the front."

DIPHTHERIA CONTROL

The fallacy of depending primarily on laboratory tests for the control of diphtheria is emphasized by D. M. Lewis, New Haven, Conn. (*Journal A. M. A.*, May 13, 1916). Carriers, he says, are of two types, pharyngeal and nasal. The former show acute hyperemia with chronic pharyngeal hypertrophy, and the culture result is positive. The second, or nasal, type shows a bloody purulent anterior nasal discharge, usually unilateral, with excoriation of the upper lip and neighboring skin. One class gives a history of a diphtheritic attack with epistaxis in its course or during convalescence, the characteristic discharge appearing a few weeks after the attack. In the other class the patient shows the lesion without having had the disease. In his first year's campaign he followed the prevalent practice of depending on the laboratory test at first. He found reason to regard inspection of the nose as less misleading than culture data. In the second year, therefore, he gave more prominence to field work and relied mainly on it. No contacts were isolated if the nasopharynx was normal, and the quarantine was raised. He had no reason to regret this course. The results were that following this method cases of diphtheria very markedly decreased in number. To secure still further control, recurring inspection by field nurses of children under school age in families with no school absentees is needed, together with the notification to the board of health of the arrival of new families in the community. "In the control of diphtheria, the field work of the epidemiologist plays the most important rôle. The means by which he operates are the physical examination of patients and contacts, the subsequent careful supervision of the former at the time of head colds and sore throats, and the constant family and neighborhood survey for carriers."

VACCINE TREATMENT

"Looking backward over the development of active immunization by vaccines during the last fifteen years, we appear to be at the termination of one epoch in the therapeutics of infectious disease. In this issue, Hektoen traces the stages by which vaccines which were first employed with attempted scientific control have come into indiscriminate and unrestrained use, with no guide beyond the statements which commercial vaccine makers are pleased to furnish with their wares. Already most physicians are realizing that the many claims made for vaccines are not borne out by facts, and that judging from practical results there is something fundamentally wrong with the method as at present so widely practiced. As clearly shown by Hektoen (*Jour. A. M. A.*, May 20, 1916), 'the simple fact is that we have no reliable evidence to show that vaccines, as used commonly, have the uniformly prompt and specific curative effects proclaimed by optimistic enthusiasts and especially by certain vaccine makers, who manifestly have not been safe guides to the principles of successful and rational therapeutics.'

"But out of this wild period from which we are emerging there have come certain benefits which promise to be more or less permanent. The study of prophylactic immunization against typhoid and other similar diseases has been fostered, and the time of attainment of its present efficacy perhaps hastened; the effects of active immunization in accelerating the development of immunity and recovery in certain chronic localized infections of known etiology have been studied; the search for sources of infection from which autogenous vaccines could be obtained has led to a more careful examination of patients, who have thus been indirectly benefited by having the source of their troubles discovered and removed.

"It has been difficult for most physicians to distinguish between the relatively limited field of prophylactic immunization in which scientifically controlled experiments and carefully observed and analyzed results have confirmed the claims of the method, and the other field of the use of vaccines in which mixtures of bacteria and their products have been indiscriminately introduced into patients suffering from all manner of disease, infectious and noninfectious, acute and chronic, without study of the patient, or knowledge of the etiology or pathology of the disease. But the latter use of vaccines cannot be condemned merely on the ground of its empiricism. As Theobald Smith has said, 'We cannot do without empiricism wholly. We owe valuable suggestions and discoveries to it. These are like clearings in the forest unconnected with other clearings, but destined to become the nucleus of a healthy scientific growth.' When, however, it becomes evident that empiricism has run riot, that it has wholly divorced itself from scientific control, and when, in addition, its results, impartially reviewed, are shown to be unbeneficial, we must conclude that such a clearing has been badly located, and that it never can occupy a worthy place on the highway of scientific medical progress.

"In regard to the more recently developed methods of intravenous therapy in typhoid fever, Hektoen points out that certain new concepts and theories are introduced which need diligent study and correlation before their application to the problem can be settled. Here again we find ourselves in another pioneer clearing in an unexplored forest. Only the future can determine whether this clearing is to become a useful station, or whether after a brief existence as a point of interest it will prove to be far removed from the thoroughfare of legitimate travel. Certainly the development here should proceed cautiously.

"Already a similar procedure has been introduced for the intravenous treatment of other subacute and chronic infectious diseases, such as arthritis, and some observers have asserted that the amelioration of the symptoms in the joints following the treatment is sufficient to establish it as a worthy routine treatment. The fact that in the subjects of arthritis and even in normal persons the intravenous injection of bacterial or other protein is followed by a rather characteristic sequence of phenomena of fever, chill and leukocytosis by no means stamps the method as a justifiable type empiricism. Indeed, other observers have noted that patients so treated relapse, and that the number of those who do not relapse is apparently no greater than the number of untreated patients who recover spontaneously. Such treatment, ineffective in itself, actually hinders recovery by distracting attention from

the search and removal of the cause of the arthritis.

"The fact that much time and effort of the past ten years appear now to have been wasted, so far as positive results go," says *The Journal of the American Medical Association,* "should make us doubly cautious in accepting a new and somewhat similar procedure until opportunity has been afforded for its verification under conditions favorable for scientific control."

ENGLAND WARS ON CANCER

Central Midwives Board Issues New Circular—Cancer of Breast Curable by Early Treatment.

That the policy of "business as usual" applies to constructive efforts for the prevention of disease in England is evident from the publication by the Central Midwives Board as recently as March 16, 1916, of a new circular on cancer of the breast. The practice of midwifery in England and Wales is controlled by this Board and the circular is the newest of a series issued for the instruction of all women practising this profession and registered with the Board as required by the law. The leaflet on cancer of the breast was prepared by the Chairman, Dr. F. H. Champneys, F. R. C. P., and is distributed to the public as well as to midwives.

Pointing out that cancer of the breast unless treated by early removal always ends in death, Dr. Champneys states that the disease is at first only in the part affected and not in the system. "Every day and even every minute," the circular says, "is of importance and no time at all should be lost. The earliest symptom is a lump in the breast which is usually painless and may be quite small. It may remain without seeming to grow for some time. The only cure for it is early removal. Although it is often easy to be sure that a lump is cancerous, many lumps which begin by being innocent turn into cancer, sometimes after many years."

Dr. Champneys advises that all lumps except those caused by undoubted and recent inflammation should be removed as soon as they are found and advises all women who discover a lump in the breast to consult at once a surgeon who is in the habit of dealing with them. If the lumps are not removed and are cancerous the disease sooner or later spreads through the body and becomes incurable, while if the lumps are not cancerous they may become so. "The removal of an early lump," the leaflet goes on to say, "is generally simple and if microscopic examination should show afterward that it was not cancerous a danger for the future will have been averted and the anxiety of the patient and her friends will be relieved." From such an operation there is generally "practically painless recovery in a few days. If the lump proves to be cancerous, however, a further operation is necessary, which if undertaken early saves many lives."

According to Dr. Champneys, if women would follow the above advice much loss of life, many regrets when too late, and much misery would be saved.

DISEASE AND WORKMEN'S COMPENSATION LAW

Rhode Island Court Allows Compensation for an Accident which was Due to Dizziness Resulting from Disease

The Supreme Court of Rhode Island has decided that an injury resulting from a fall which was partly "due to dizziness or unconsciousness induced by a disease" was an injury "arising out of and in the course of" employment, for which the employee was entitled to compensation under the workmen's compensation law. (See p. 1147 of this issue of the *Public Health Reports.*)

The injured employee was a hack driver who was suffering from "hardening of the arteries and Bright's disease." He fell from the seat of a hack which he was driving and was seriously injured.

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Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 9 $1.00 per Annum

Rutland, Vermont, September, 1916.

Original Papers

SURGERY OF THE THYROID GLAND

By C. A. Porter, *M.D.*
Boston.

Read in the Post-Graduate Course of the Vermont State Medical Society at Burlington, Vt., May 25, 1916.

The surgical lesions of the thyroid which we have to consider are infections; simple bilateral diffuse hyperplasia, or hypertrophy of the gland; foetal adenomata; cysts; adenomas and irregular colloid tumors, often in combination; malignant tumors, sarcomata and carcinomata; and finally, toxic goitres and true exophthalmic goitre or Graves' disease. In infections we have to do with drainage operations, at times, removal of portions of the gland; in the condition of adenomata, cysts, and colloid goitre, removal of the cyst, enucleation of the tumor, or as in the case of colloid growths, a sufficient removal to relieve obstruction to the trachea, esophagus, etc., or for cosmetic purposes; next, removal of tumors which, owing to their appearance late in life, or rapid growth, suggest the possibility of commencing malignant disease; finally attempt at cure or palliation; i. e., tracheotomy, of actual malignant disease.

Of the goitres with toxic symptoms (so-called hyperthyroidism) there are two types: those in which a goitre has been present for varying lengths of time, followed ultimately by toxic symptoms, with or without exophthalmos; and perhaps the *true type* of primary Graves' disease, in which general toxic symptoms not rarely precede or quickly follow the development of an enlarged thyroid.

1. In many infections there is undoubtedly a process in the thyroid gland which is shown by swelling, tenderness, increased size, fever, leucocytosis, pain (often referred to the back of the ear or neck), difficulty in breathing or swallowing. As a rule, under ice-bags such infections spontaneously subside without the formation of pus. Occasionally a definitely suppurative thyroiditis takes place with pus formation, requiring evacuation on ordinary surgical principles. I have seen a few cases which were diagnosed as ordinary deep cervical abscesses. In spite of the large venous supply of the gland, pyemia is rare, and the results of proper drainage excellent. Rarely, one sees, however, as a late result, acquired myxoedema which develops after destruction of the thyroid cells, which are replaced by scar tissue. Tuberculosis, actinomycosis and syphilis very rarely, but occasionally, affect this gland.

2. Simple bilateral diffuse hyperplasia, or hypertrophy, of the gland occurs very frequently in girls at or near the age of puberty, in many regions where

goitre is endemic, not rarely after marriage, or during pregnancy. With very rare exceptions these hypertrophies should not be treated surgically, for they may disappear spontaneously, or through general medical treatment:—iodine, thyroid extract and X-Rays. Inasmuch as they are practically without symptoms, and patients desire operations only for removal of the swelling in their necks, the surgeon must carefully consider whether the scar may not be more of a deformity than the original growth; and operations, if performed, must be done in such a manner that the lower poles are left of symmetrical size in order that one side of the neck may not be smaller than the other.

3. Foetal adenomata occur as single or multiple, nodular, circumscribed tumors in one or both lobes, developing early in life, or at any period. They lead often to marked deformity, to pressure on the trachea or esophagus, depending upon their location. If the thyroid enlargement takes place forward, between the sternomastoid muscles, pressure signs are often absent. If, however, a relatively small tumor grows behind the insertion of the sternomastoid muscle, pressure symptoms are apt to arise as the muscle holds back the tumor from any outward growth. With these foetal adenomata there occur varying degrees of toxic symptoms on the part of the heart, nervous system, etc., which are rarely, however, accompanied by exophthalmos.

Goetsch believes that these adenomata have the power of secreting an excess of thyroid juice which explains the marked relief of general toxic symptoms which almost always follow their removal. Operation, though at times difficult, is most satisfactory, and consists either of enucleation of the nodules from the thyroid tissue, or occasionally it is simpler to do a lobectomy, provided enough thyroid may be left behind in the other lobe to carry on the function of the gland.

4. Cysts are not uncommon, varying in size from a marble to enormous tumors containing a couple of quarts. Into them now and then occur sudden hemorrhages which may cause even alarming pressure symptoms, but apart from this, their harmful effect is purely mechanical. If a cyst is suspected no harm will come from aspiration with a hypodermic needle for diagnostic purposes, followed, if deemed advisable, by the injection of carbolic acid, corrosive sublimate, or some irritant designed to prevent recurrence. It is important to make this diagnosis, for treatments by iodine, X-Ray, thyroid extract, etc., are absolutely contraindicated and useless in cyst formation. If cysts are increasing in size, or causing obstruction, they should be removed with the technic which will be described in thyroid operations.

5. Colloid is the most common form of thyroid enlargement and varies in all degrees. As a rule operation is desired for cosmetic purposes, or owing to the formation of large bilateral tumors in the neck, with a varying amount of pressure symptoms. It is surprising to see to what a huge size some of these tumors may develop without causing any symptoms whatever. In other cases thyroid enlargements take place posteriorly encircling the trachea, or trachea and esophagus, and bring about severe obstructive symptoms. Iodine and thyroid extract, with or without X-Ray, sometimes cause diminution of these tumors,

but in general their effect is slight, and surgery fulfills here one of its safest indications. In such thyroid enlargements, occurring before puberty, operation should be delayed as long as possible, lest too much of the more or less active gland be removed and interfere with the proper development of the individual.

In regard to technic of operations for benign tumors of the thyroid, the first question for consideration is the choice of the anaesthetic. As my experience increases, I am more and more in favor of local anaesthesia where the mental attitude of the patient is satisfactory. While a change from local to general anaesthesia is always possible, it is time-consuming, increases danger of infection if the patient struggles, and much judgment should be used in endeavoring to select those patients who will satisfactorily put up with the idea of being conscious while their neck is operated upon, or occasionally bear a little pain or sense of dragging. I give sulphonal — grains 20 to 30 — the afternoon previous to operation, and one or two doses of morphia commencing an hour and a half before the appointed time. With the second dose 1-120 of a grain of scopolamine, which may be repeated just before operation, if the patient is not sufficiently drowsy. This combination of sulphonal, morphia and scopolamine is most satisfactory when it works well, but occasionally there is excitement instead of quiet, a condition like coma vigil — the patient sleeping until the surgeon starts to do something, then waking up and resisting. If a general anaesthetic is to be administered in such instances, it must be given with great care, as the patient is often over-drugged for a satisfactory ether operation. A pillow should be placed between the shoulders, so that the neck may be hyperextended, the table in moderate Fowler's position, facing a good light. No pains should be spared for a proper posing of the patient before operation, as great difficulty will be found in carrying out a proper technic if the neck slumps backward. There is no doubt that the collar incision of Kocher is the best for these operations. This may be placed across the bottom of the neck where a necklace will later conceal the scar, or it may be made by a low incision over the sternum when no scar will be visible unless a low-neck is worn. I use a 1 or 2% novocaine solution with 1-40,000 adrenalin chloride. It is best to mark out the line of incision by an intradermal injection of the solution, which should bring out a white wheal on the skin. The novocaine acts thus quite quickly from tension, more slowly from its anaesthetic action. If you will recall your anatomy you will remember that all the nerves supplying the front and side of the lower neck emerge from the posterior border of the sternomastoid muscle from its mid point downwards for an inch and a half; the superficial cervical branch, the inner, middle, and outer branches of the supraclavicular nerves. While we are waiting for the novocaine in our line of incision to act, these nerves at this point should be anaesthetized by deep massive infiltration. The skin and platysma muscle should next be incised, usually from external jugular to external jugular, the posterior incision extending somewhat upward, rather than transversely, in the lines of cleavage of the skin. The upper flap should be dissected to the level of

the bottom of the thyroid cartilage, the lower down to the sternum. The enlarged anterior jugular veins next come into view and must be carefully clamped and tied between ligatures. The sternomastoid muscles are then to be dissected free and retracted. If the tumor is a large one there is no objection to dividing these muscles a half to two-thirds through; mattress sutures will ensure no deformity. The surgeon has next to consider the advisability of separation of the sternohyoid and thyroid muscles in the median line, with lateral retraction; or a transverse division of them at a higher level than the skin incision. There is little doubt that separation is preferable to division on account of less postoperative pain in swallowing, and freer movements when the wound is healed. Large or vascular tumors require free exposure for neat and bloodless work, and the muscles must then be divided. No time will be lost, and convenience assured, by immediate ligation of all skin vessels. Fine plain catgut should be used rather than silk, as in many instances chromic gut or silk ligatures are discharged from just under the skin some time after the wound has apparently healed. The intrinsic capsule of the thyroid varies much in thickness and in adherence to the gland. Any previous infection or treatment with boiling water or X-Ray makes its removal more difficult. Anteriorly the capsule is of no importance, but if we are to operate upon both sides of the gland it marks behind the curtain beyond which lie the recurrent nerves and the parathyroid bodies. When the muscles have been well retracted, careful inspection of both lobes is necessary to determine what operation shall be done; enucleation of a cyst of an adenoma, removal of the anterior or two-thirds or three-fourths of both lobes, or hemithyroidectomy on one side and upper partial lobectomy on the other.

Lobectomy is comparatively simple and bloodless. The gland is grasped with gauze or a double hook, pulled toward the median line, and the upper and lower vessels clamped between forceps and divided. In spite of care there is often some troublesome bleeding near the middle of the gland where the inferior thyroid breaks up into a number of branches. An injury to the nerve usually occurs from hurried grasping of a bleeding vessel through the capsule. Local anaesthesia has the great advantage, that it forces the surgeon to work gently and slowly, and any change of voice can be immediately noted. As a rule, these manipulations are painless, but occasionally the patient complains when a ligature is tied, or the tumor is dragged upon. Several times I have enucleated a cyst or tumor from behind the sternum and have been surprised at the freedom from pain. If supplementary injections of novocaine are necessary, it must be remembered that several minutes are required for complete anaesthesia. The common error made is to begin without this delay. In large irregular tumors, Balfour's suggestion is valuable, i. e., the division of the isthmus, and separation from the trachea of the two halves of the glands from within outward. After the amount to be removed has been determined, every effort should be made to control the blood supply by deep mattress sutures or pressure by the finger on the vessels at the base of the lobe. When all bleeding has been stopped, the remains of the lobe

is then sutured, leaving behind the lower rather than the upper poles. In all cases of tracheal obstruction, local anaesthesia is invaluable. When once the trachea has been bared and is clearly visible to the eye, a general anaesthetic may be safely administered if necessary. In spite of all precautions, hemorrhage (sometimes serious) takes place in a definite proportion of cases. Most frequently a vein is torn in delivering the gland — a danger much increased when patients are cyanotic from obstruction or vomiting under ether. In general, drainage can be omitted. If used, a small stab wound through the lower flap is preferable to its insertion through the line of incision. Whenever there is mild infection of a drain through the incision, there is apt to occur a dimple adherent to the deeper tissues, which causes an unsightly deformity, and dragging on deglutition. The platysma must always be sutured with care; the skin incision closed either by a sub-cuticular catgut suture, or interrupted fine silk or horsehair stitches loosely tied and removed within three days. With this technic the scar of the collar incision is practically invisible. A moist dressing for twenty-four hours allows oozing from the drain or between the stitches. At the end of two days the drain should be removed and in the meantime great care must be taken to prevent infection from looseness of the dressings.

I use a large gauze sponge snugly held to the skin by adhesive plaster at the top. This is raised like a lid, and the dressing applied, which is held in place by a towel passed behind the neck, crossed and pinned to a swathe in front. For several days flexion of the head is painful, and patients are bothered a good deal by mucus and difficulty in swallowing. If no drainage is used, in spite of careful hemostasis, there occasionally occur collections of bloody serum which has to be evacuated, and not infrequently one notices little collections just under the skin of a sterile bloody serum which has to pricked like a blister. The above outlined technic is applicable to all benign tumors and cysts of the gland which require removal. I have had several rather alarming hemorrhages during the operation, but as yet no case of secondary hemorrhage. Three times a recurrent laryngeal nerve has been injured, either in the dissection, or carelessly grasped in the attempt rapidly to control bleeding. Though some of the tumors and cysts have been very large — one filling up a third of the superior mediastinum — and another adherent to the sternum beyond its middle — I have had no death in more than 100 cases until last month, when an old lady of 65, who for forty years had had a very large cystic tumor, died from hemorrhagic nephritis and broncho-pneumonia. There have been a few instances of continued growth of the tumor or formation of a new cyst, making necessary a second, and twice a third operation. The surgery of non-toxic goitre, then, though often difficult, is extremely satisfactory — the cosmetic results good. The exact opposite is true of malignant disease: In the last fifteen years there have been twenty operations at the Massachusetts General Hospital. Of these, 17 were cancer and 3 sarcoma. One case was 25 years old; one 29; one 32; one 33; all the others over 40. The oldest patient (63 years of age) had had an enlarged thyroid for twenty years, with rapid growth in the last two. There were 5 cases of very long duration of a

goitre subsequently undergoing malignant degeneration — one 35; one 25; one 20; one 12; one 7; another 4 years, after onset. This shows quite clearly what my experience confirms; that the development of an enlarged thyroid after fifty, or rapid increase in a long-standing goitre, is an indication for immediate operation. When once the diagnosis of cancer is clear, from the stony hardness of the tumor, paralysis of the recurrent laryngeal nerve, and enlargement of the adjacent lymphatics, a radical operation is practically hopeless. The only chance of cure rests in a thorough operation before the carcinoma has spread beyond the capsule of the gland. In one private case such an operation was done with the removal of a portion of the esophagus. For a year there was complete comfort, but recurrence then took place. In two other patients over sixty, with rapid growth in a few months, recurrence followed operation too soon to make it worth while. Where obstruction to respiration makes tracheotomy necessary, local anaesthesia is clearly indicated. This will be found to be a most bloody and trying operation, not rarely followed by secondary hemorrhages; pneumonia and bleeding commonly end the lives of these wretched patients.

We have next to consider the toxic cases — so-called hyperthyroidism. As my paper deals only with the surgical aspects of Graves' disease, I shall not enter into the various theories as to its causation and complex relations or interrelations with the other glands. One thing remains clear; the etiology is not yet thoroughly understood. It is also, I think, impracticable to divide the toxic cases too minutely into groups. Broadly speaking, however, there are two types; one, where the patient for months or years has had an enlarged thyroid, and subsequently developed the toxic symptoms; another group where, preceding any manifest thyroid enlargement, there is nervousness, tachycardia, palpitation, etc., or the general symptoms develop with an increasing enlargement of the gland. If any rough distinction can be made, the first class may be called tumors with hyperthyroidism; the second, true cases of exophthalmic goitre: It is in this latter class (2) (though of course there are exceptions) that we find the most severe toxemia, exophthalmos, and the greatest loss of weight. What, at present, are the indications for surgery in these two types of cases? What are the dangers of operation, and what has surgery to offer better than medical treatment? Quite recently the X-Ray, being safe and favorably regarded, is being used more and more. The invention of the Coolidge tube which allows measured, massive dosage, may prove a valuable aid in this disease. Personally, I have been in the habit of having one or two thorough treatments previous to operation. I have had little experience with long and continued treatment. While undoubtedly marked improvement has occurred, particularly in the milder cases, I have not been impressed with the results, and in one case in particular I can see very little improvement after a year of treatment. Dr. Seymour who has recently been following a series of cases, will later give us his impressions. It has one great advantage — if not persisted in too long — the element of safety and the absence of scar. There are some surgeons, notably

Kocher of Bern, who think that surgery is the ideal treatment for thyrotoxicosis. He operates as early as possible after a very brief period of rest, and refuses operation on all advanced cases. His mortality is small (about 4%) because he operates, in fact, upon a selected group of cases. The general feeling at present is, I think, that all cases of Graves' disease should first be treated by rest and medical treatment. If satisfactory improvement occurs this may be continued, but it is not applicable to wage earners and those who cannot give up the time. While, under neutral bromide of quinine and other drugs, almost miraculous improvement takes place now and then, it is my experience that such cases are apt to recur, and that if lobectomy, single or double partial, has been performed, cures occur more rapidly and are more permanent. I would advise operation of some sort, then, in cases where improvement is unsatisfactory under medical means; in such cases which have already lasted more than a year with commencing myocardial weakness, exopthalmos, etc., or where it is unlikely that medical treatment will act sufficiently quickly to bring a satisfactory result. Plummer of Rochester believes that after a year, operation is less hazardous than in the early stages. My experience has shown that Graves' disease in girls from 18-20, particularly if the mental attitude is excitable, has seemed to carry a grave operative prognosis. Another type in which the risk is poor is women between 40 and 50 who are apparently passing through the menopause. The Hebrew race, owing to their neurotic constitution and lack of control, make a calm preparation for operation difficult, and I have had, among them, a comparatively large mortality. There is another group of rather chronic cases of years duration with ups and downs — exophthalmos, rather firm vascular glands, tachycardia, often irregularity of the heart — in which there is doubt as to whether the patient is actually suffering from Graves' disease or the aftermath of a past toxemia. It is in this type that the various newer tests are of very great value. I mean estimation of the carbohydrate tolerance, basal metabolism, differential blood counts, injections of adrenalin, etc., in order that we may determine, if possible, whether the symptoms are due to an overactive gland. In these cases it is probable that other glands, the sympathetic system, and the myocardium have been affected, and it is often a nice question of judgment to decide for or against operation.

Before considering operation, there is one thing I wish to emphasize, and that is an increasing conviction that the psychic influences before operation are of extreme importance — in fact, I believe make for recovery or death in certain instances. The surgeon should have absolute control of the situation, and the complete confidence of the patient, who, if possible, should look forward to the day of operation, unless we follow Crile in all detail in his "theft of the thyroid." In no other surgical disease do the surroundings, methodical nursing, cheerful mental attitude, etc., count so much; to no other patients do the occasional worries and effects of a large clinic work so great a detriment. If, as I believe, the mental attitude of the patient is so important, it is queer that surgeons have not come to more

unanimity upon the choice of an anaesthetic. Kocher has always insisted upon local anaesthesia, and I have seen him adhere to this rule to, if not beyond, the limit. The Mayos, whose mortality is equally small, have the patient brought to the amphitheater and quietly etherized by the drop method. Crile, as we know, endeavors to carry out his anoci conception, planning to keep the actual date of the operation from the patient, and gives gas and oxygen in the patient's bed. As my experience increases, I am more and more in favor of the morphia-scopolamine sequence with local anaesthesia, when the patient's mental attitude is favorable and the drugs act well. In a few operations I have had to abandon local anaesthesia, owing to the complete lack of control of the patient, and have felt that this abortive attempt was much worse than if I had started with a general anaesthetic. Indeed, I will go further and say that in bad cases of Graves' disease, if anything goes wrong with the preparation for operation and a patient arrives in a highly excitable condition, it is always best to delay for a more favorable opportunity.

From the 185 cases in hospital and private practice which I have had, I have selected the 85 which at time of operation showed definite Graves' disease or hyperthyroidism present, or very definite in the immediate past. I have excluded the milder cases of transient hyperthyroidism and considered them in the previous part of this paper. In these 85 cases I have performed 31 ligations, 19 hemithyroidectomies; in 17 the right lobe was removed with ligation of the vessels on the left; in 18 the major portions of both lobes, leaving a bit of the upper or lower poles, and a posterior strip of the gland. Double partial lobectomy is, in my opinion, a more severe and bloody operation than hemithyroidectomy; but as I look over my cases I feel that more immediate improvement takes place, and the danger of recurrence of symptoms is less. The most difficult question to decide, when once operation has been decided upon, is between preliminary ligation of vessels, or removal of portions of the gland. Upon this question different surgeons are not in agreement. A majority, I believe, feel that in the severer cases a preliminary operation of ligation, usually under local anaesthesia, makes a subsequent thyroidectomy less dangerous. Whoever has done a secondary operation on these cases is convinced of two things: that ligation makes the operation somewhat harder, owing to adhesions, and secondly that the ligature of the superior vessels has not much diminished the vascularity of the gland. I think the benefit which frequently follows is due to division of the sympathetic nerves accompanying the vessels. In two cases only has ligation of the superior vessels been sufficient to bring about a cure; after it there has usually been either no perceptible improvement or a period of improvement followed by recurrence. It should be regarded distinctly as a preliminary operation and should, at varying periods, be followed by further operation. In a number of my cases, before the patients would consent, intervals of from one to three years have elapsed at which time the element of safety after ligature is probably abolished. In such cases, therefore, we should consider, if they are severe, further ligature of vessels before

thyroidectomy. In other words, after ligature of the superior vessels there seems to be, according to my experience, after ten days or two weeks, a diminished danger in operation. After a long lapse between ligation and operation the risk seems to be that of a primary thyroidectomy. I have analyzed, very carefully, my fatal cases, some of which date back to 1909, in order to learn, if possible, any avoidable mistakes. I have had five deaths from toxemia — one in a suicidal, extremely toxic case, with photophobia and confinement in a dark room for three months. Ligation was simple, but in spite of all treatment, death with all the characteristic symptoms, occurred at the end of three days. This was a desperate risk taken deliberately. Of the four other cases the operation was a primary lobectomy; two were in young girls eighteen and twenty-five years; two in middle-aged women undergoing the menopause. The one aged eighteen deceived me in her degree of toxicity. Right hemithyroidectomy with ligation of the vessels was performed under ether, in 1910, and was followed by a typical toxic death in three days. The one aged twenty-five was a very toxic case; had been sick for eight years, and did not improve under three weeks in bed with rest treatment: in fact, on the whole, seemed worse. Right hemithyroidectomy under gas and oxygen and left hemithyroidectomy with ligature of the vessels on the right were performed; operation comparatively easy; died on the third day of typical toxemia. A girl of thirty had extreme symptoms for two years; was unable to work for a year; fell exhausted on the street several times; treated in medical ward without improvement; heart irregular; marked systolic murmur with some enlargement. Right hemithyroidectomy under gas and oxygen and partial left lobectomy were performed with extreme reaction which persisted unusually long, leaving marked condition of prostration; patient died nine days after operation. All of these three were early cases and at present I believe that a preliminary ligation should have been done or the patients should have had X-Ray treatment previous to operation. A Jewess of forty, undergoing the menopause, suicidal for a year, refused operation four successive mornings. Finally she consented to it if I would perform it in the afternoon. Rather against my judgment, at the earnest solicitation of her husband, I agreed to do it, under gas and oxygen, removing the right lobe and half of the left. There was considerable bleeding, and with excessively rapid pulse the patient died in three hours. This was in 1909, and did much to influence me against operation. I have broken this rule since then once or twice, always to my regret, and with a severe operative, though not fatal, toxemia; until in March of this year I had another death, the first since 1912. A Jewess of 47 had been ill for five years with nervousness; headache: irregular menstruation; oedema and dyspnoea; pain in the upper abdomen; rapid pulse, with some enlargement of the heart; some glycosuria; unable to work. Under careful medical treatment for two and a half weeks, she lost seven pounds, and tachycardia and nervousness persisted. I advised ligation under local anaesthesia as a preliminary. She had her morphia in two doses and was apparently drowsy, but before operation

could be begun she jumped up from the table and insisted upon going home. Three days later she consented, provided her daughter were present, to have operation under gas and oxygen. I performed a double partial lobectomy without difficulty, but from the time of her recovery from the anaesthesia, extremely rapid pulse with excessive nervousness began and increased until death at the end of forty-eight hours. This illustrates strikingly, I think, a bad risk in a woman who was steadily running downhill. Operation undertaken was the only hope, and owing to the lack of control toxemia started before operation and was only increased by it;— I think an error of judgment in attempting to benefit a patient unwilling to accept one's best advice. In four cases severe bronchitis, pneumonia or broncho-pneumonia, for reasons which I cannot explain, ended fatally in from a week to a month. In the latter long case the ultimate cause of death was heat prostration in the severe July of 1911. A fifth case died, so far as could be made out, from a terminal pneumonia, aided probably by unsuspected morphinism. Why pulmonary complications should have occurred in these cases and been absent in the non-toxic goitres, it is impossible for me to explain. Another death, similar to a case of Dr. Judd's in Rochester, I cannot understand. Autopsy showed purulent pericarditis, enlarged thymus and adrenals, as a cause of death thirty-six hours after a simple ligation with a clean wound. In another, a large infarct of the right lung, after a very satisfactory gas and oxygen thyroidectomy, caused death on the third day. In this series of 185 cases, there was one instance of tetany — the first post- operative case at the Massachusetts General Hospital. A young girl of eighteen with severe Graves' disease had double ligation under ether in 1911, followed by marked improvement which lasted for almost two years — then recurrence of symptoms. Under gas and oxygen in October, 1914, right hemithyroidectomy and partial left lobectomy were performed. The operation was apparently intra-capsular. On the fourth day characteristic tetany developed, which was controlled with calcium lactate. In spite of parathyroid tablets and continued calcium lactate, severe convulsions occurred followed in January, 1915, by acute mania and death. It seems to me necessary to believe that in this instance the blood supply of the upper parathyroids was cut off by the ligation, or the unfortunate patient had an abnormally small number, for the operation was performed in such a manner that some of the parathyroids under normal circumstances must have been conserved. Thus this analysis seems to show that the danger of toxemia is diminished by preliminary ligation a short time previous to thyroidectomy; that perfect control of these patients is necessary, lacking which, operation should not be performed. There has been no death from pulmonary complications following local anaesthesia. The case of pulmonary infarct and purulent pericarditis seems to me to be impossible to avoid.

In endeavoring to analyze the good results of operation it is most difficult to make satisfactory statistics. Those who have seen the very marked relief within a few days which follows lobectomy are absolutely convinced that the thyroid

has to do with Graves' disease. On the other hand, there are occasional cases which, in spite of ligature and lobectomy, disappoint us with their lack of improvement. Some surgeons believe that the thymus gland is in part responsible for the symptoms and state that improvement has finally taken place after thyroidectomy. With this operation I have had no personal experience. I am inclined to believe, however, that the failure to distinctly improve or cure a majority of these cases is due to delay in operating until permanent degenerations have taken place, or some not understood action of the sympathetic nerves or other glands in the body.

I have operated upon some quite desperate cases with marked improvement: One, a young girl, with congenital heart murmurs who, it was decided, could not survive the cardiac lesion plus the toxemia of Graves' disease, has been practically cured as far as any toxemia is concerned, by preliminary ligation, followed later by thyroidectomy. Another woman who was bedridden with coincident mitral insufficiency and severe Graves' disease is now entirely cured of all her Graves' symptoms except slight exophthalmos. Another middle-aged woman, bedridden with marked oedema and rapid irregular pulse has after operation improved so that she can do her work, though some tachycardia and irregularity of the heart persist. Another woman of fifty-five, confined in an asylum, much to my surprise became almost normal after operation; was able to look after herself and go to the theater alone; dying suddenly of pneumonia a year afterwards. In my experience the cases which have had exophthalmos for any length of time never again have normal eyes, and not a few of the cases apparently cured under normal circumstances show, in excessive fatigue or worry, slight tachycardia and tremor. Of the 85 cases, 20 are absolutely cured; 18 much improved; 13 improved; 4 not improved and are requiring further operation; 16 have not reported or done so in too general terms to be valuable for statistics. If then, a patient has had a reasonable course of rest, medical treatment and X-Ray treatment (if this proves to be really and permanently satisfactory) and the symptoms persist, operation should be advised. Among wage-earners who cannot give up the time, and in the chronic cases in which the disease has advanced too far to allow of delay, after preliminary rest, operation should be performed. Whether this be a preliminary ligation or lobectomy under local or general anaesthesia must be determined in each case. Finally, in chronic cases in which there is doubt as to whether the patient is suffering from existing toxemia or has been poisoned irreparably by the disease, modern tests, of which basal metabolism is probably the most important, will aid the surgeon much in deciding for or against operation.

SOME FEATURES OF EPIDEMIC POLIOMYELITIS

By C. S. Caverly, M. D. President of the Vermont State Board of Health, Rutland, Vt.

The rise of epidemic poliomyelitis to the first rank as a real epidemic and infectious disease is sensational. The first considerable outbreak of this disease was in Vermont, where it made its appearance in the Valley of the Otter in 1894. The medical profession was wholly ignorant of its epidemic features. It had been known for some years as a disease that appeared "sporadically," and left a permanent cripple here and there. Medical text books contained a few lines on the subject, but it not only was never referred to as an infection, but was considered a rather rare and comparatively unimportant lesion of the anterior horns of the spinal cord.

Since our 1894 outbreak, a new literature has perforce been written into medicine.

With ever increasing severity, the disease has invaded many and widely separated sections of this country and Europe, especially Norway and Sweden. The seriousness of the disease is not measured by its fatalities, but rather by the physical wrecks it leaves in its wake.

And now as a culminating evidence of the importance it has assumed in the world of Preventive Medicine, comes the great outbreak of 1916 in New York City, and the contiguous districts.

Doctors Flexner and Noguchi of the Rockefeller Institute have found the germ cause, a minute organism, filterable through the Berkefeld filter.

The paths which this organism takes in passing from one person to another are still little known. It is known that the virus lives in the mucosa of the nose and throat as well as in the intestinal tract not only of *cases,* but also of *contacts.*

When we speak of *cases* of infantile paralysis, we are no longer warranted in meaning only those who are actually paralyzed. We must include also the so-called *abortives,* those in which the disease spends itself short of muscular paralysis.

On the early *diagnosis* of infantile paralysis *before the paralysis develops* largely hinges the successful prevention of the disease. It seems now extremely likely that the abortives are as numerous, if they do not outnumber the paralyzed cases. Then the "contacts," who may harbor the causative organism in their upper air passages offer another serious problem to the student of prevention.

Both *abortives* and *contacts,* as well as the frank paralytic cases, then, are "potential agents of dissemination" of this subtle virus.

These facts emphasize the *human* side of the distribution of epidemic poliomyelitis. Animals and insects have long been suspected of playing this role. As with most of the other infections, the infection of poliomyelitis is now thought to be chiefly spread by human carriers or manufacturers of the virus.

This furnishes our only real cue at the present time for the prevention of the disease. We must limit the distribution of the disease by *cases* (paralyzed or abortive) and by *carriers;* not an easy task.

Quarantine at best is cumbersome, irritating alike to patient and patient's

friends. It is unscientific, in so far as it reveals a scientific weakness. Still we may not as yet resort to real scientific measures, like those we use successfully against such diseases as small pox, diphtheria and typhoid; and in the absence of such immunizing methods, we are compelled to limit the activities and range of the known distributors, by isolating them. Hospital facilities for this quarantine are imperative to get the best results. Well-conducted isolation hospitals furnish the greatest protection to the community and give the patient a chance of minimum maiming. Besides this, such hospitals go far to remove the burden of house quarantine.

Infantile paralysis is communicable from person to person, yet it is not as contagious as measles or small pox. Why this is so, it is not well understood. Adults have the disease, but comparatively rarely. Why adults are generally immune is a question.

Theories in great variety are being suggested and studied: most of them remain to be proven.

In 1914 the northern part of our state had an outbreak of this disease, as shown by the report, which, per capita of population, was quite as severe as that which is now prevailing in New York.

Barton had 11.5 cases per 1,000 of its people. If New York has as many this year, its figures must approximate the enormous number of 50,000 cases. Our case fatalities that year were 17.3 per cent, rather less than seems to be the rate in New York.

The disease has usually been rated a *rural* disease. The present epidemic may modify this rating.

The Vermont season for epidemic poliomyelitis is just now (August 16th) beginning. We have adopted certain regulations in this state against the introduction of the disease from New York. The disease is gradually invading the suburban districts about the metropolis in constantly widening circles. This spreading of the disease may have a sinister meaning for us even yet. So far we have had only a single case in this state this summer.

The public and profession of the state and the press have loyally supported the health authorities in enforcing the regulations, calling for a two weeks' quarantine of all New York children under fifteen, who enter Vermont. Another of these regulations, which should not be overlooked, calls for the irrigation of the nasal and throat mucosa with a solution of salt, in the strength of a teaspoonful of table salt to a pint of water for three successive days.

This is a very valuable preventive measure, as well as simple. All parents might to advantage adopt this procedure with their children during the poliomyelitis season, i. e., until November 1st.

Public gatherings, made up largely of children, especially indoors, like schools, picture shows, Chautauquas and even circuses are suspected of having been instrumental in spreading community outbreaks. Hence if any considerable number of cases occur in our state, or an epidemic seems imminent, such gatherings may have to be suspended.

It is certainly encouraging that we have so far escaped, but if later we are involved in this year's outbreak, the health authorities look for continued loyal support from the public in enforcing rational preventive measures. Vermont has had several serious practical lessons in epidemic poliomyelitis. These lessons must not be lost on us.

A generous friend of the state has given the State Board of Health money to combat this disease. This money is being carefully used, not only to study the disease itself, but to assist in its prevention, and to help those who have been crippled by previous attacks. To this end, the best talent the country affords is being placed within reach of those who need this help. Many cases have taken full advantage of this benefaction.

It must, however, be noted that now and then parents neglect or refuse to allow their crippled children to receive the treatment thus freely offered. It is hardly conceivable that such persons appreciate the full meaning of such neglect to the after lives of their children. The amount of good that has come and that still promises to come to the young lives, which have received this unfortunate handicap, is beyond calculation.

AMERICAN PROCTOLOGICAL SOCIETY.

The following are abstracts of some of the papers read at the 18th annual meeting on June 11 and 12, 1916, of the American Proctology Society and comprise much that will be of interest to general practitioners who have always a good deal of rectal and anal work among their patients.

PROLAPSUS ANI IN ADULTS

By T. Chittenden Hill, M. D., of Boston, Mass.

The theory is advanced that all cases of procidentia recti are the result of neglect or improper treatment of what was in the beginning a simple form of mucous membrane prolapse. Correction of the condition early may prevent serious infirmity later in life.

He describes at length an operation modified after that of the late Mr. Goodsall, of London, England.

In this operation he employs a multiple suture. He advises removing the excess of tissue distal to the ligature.

The operation is performed under local anesthesia and is advised for patients of all ages. It is particularly suitable for use in prolapse of the aged.

The author claims that the operation is painless, short and easily performed. There is absence of hemorrhage and the end results are satisfactory.

THE POST OPERATIVE TREATMENT IN RECTAL SURGERY

By W. H. Stauffer, M. D., of St. Louis, Mo.

This paper is based upon the review of over 25,000 rectal cases treated, of which 1,500 were operative. Four hundred of these cases had been operated upon previously by approved method by other surgeons.

There are two reasons for these 400 secondary operations:

First:—Not selecting the operation indicated by the pathology.

Second:—Improper post-operative attention.

In selecting an operation or treatment the following requirements must be met: First:—Complete restoration of functions. Second:—Time required for cure. Third:—Pain produced.

Unsatisfactory results — complete or partial incontinence — often are caused by needless traumatism. He does not believe in divulsion. Division of nerves causes sensory disturbances.

Incontinence may be due to fistula operation. Believes that where the fistula opens more than two inches above the sphincter the two step operation is indicated.

In dealing with malignancy he mentions the operation of Evans as producing the least mutilation and disturbance of function in selected cases.

Operations should only be performed after a definite diagnosis has been made.

It is insisted that the best results are obtained by proper diagnosis, careful preparation, appropriate operation, and careful after-treatment. The surgeon should always make the first dressing and should always inspect the operative field daily. The patient should be kept under observation until recovery is assured.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

James Madison Hamilton, M. D., Rutland, Sec'y.
Charles Francis Dalton, M. D., Burlington, Treas.
A. Stuart M. Chisholm, M. D., Bennington, Editor.

All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.

The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., September, 1916.

Editorials

POLIOMYELITIS

We have the good fortune to be able to include in this issue some comments by Dr. Caverly on the present epidemic of Infantile Spinal Paralysis in New York, and his remarks in turn suggest a reflection on the development of infectious diseases in general which may or may not have some value, and which we will proceed to indicate. We have more or less detailed descriptions of the various epidemics that have appeared on the earth from the plague at Athens in 430 B. C. to the present year, and we know that not only have epidemic diseases undergone definite modifications in their symptoms and in their mortality, but that from time to time diseases have appeared which were essentially distinct from their predecessors. Diphtheria as an example can be quite definitely placed as having developed during the early third of the XIX century. In the text-books in use in 1816, it is impossible to discover among the thirty varieties of *cynanche* any disease that is identical with diphtheria. Of course the word diphtheria is not to be found until somewhat later than the date given.

Infantile Spinal Paralysis is a newcomer among infectious diseases. "In the summer of 1894 the first considerable outbreak that has been reported occurred in this state." From 1894 to 1910 no epidemic of this disease appeared in Vermont, although in 1907 an epidemic appeared in the Middle States. In 1911 there were 27 cases reported in this State and 19 of them were in the same locality in which the original epidemic of 1894 occurred. In 1912 there were 13 widely scattered cases in the state, but no epidemic focus could be discovered. In 1913, 47 cases were reported in Vermont, of which number 37 were in Hardwick and its immediate vicinity. In 1914 the severest epidemic of all appeared. It began in Barton in July, the first case appearing in the same region where the last cases had occurred in the previous year in the month of November. There was then a lull in the reports for about three weeks when the first case in Burlington was reported. In Addison and Franklin counties it appeared two weeks later, that is Aug. 14-16. In all there were 306 cases in Vermont during the sum-

mer of 1914. In 1915, 44 known cases occurred, and during the present summer, while the neighboring states have been so severely visited, our own has escaped. Only now, at the end of August, one case has been reported from Woodstock and two from Arlington. Since the early epidemic of 1894, this disease has been perhaps more carefully studied and more thoroughly described in the reports of Dr. Caverly, as published in the Bulletins of the Vermont State Board of Health than has been the case elsewhere. It seems then that we are witnessing the beginning of a new disease,—we are watching the birth of a malignant planet in the constellation of nosology. Infantile Spinal Paralysis had been always known, but never before had it assumed an infectious or epidemic character, such as now seems to constitute it a new disease and to add another duty to preventive medicine.

The human mind is so constituted that it refuses to rest on uncertainties. This feature forms the foundation stone of all the sciences. We are uneasy in the presence of a new phenomenon until we have in some way adjusted our relations with it even if that adjustment consists merely in familiarity and resignation. Thus it was that mankind adapted itself formerly to the presence of small pox and by familiarity became reconciled to its ravages. Thus, within our own recent memory, the destructive progress of tuberculosis and typhoid fever were viewed with resignation as an inevitable evil. But even in the depths of resignation, the mind of humanity was uneasy and being deprived of the means of exact knowledge, sought refuge in conjecture. Thus arose, at an earlier era, the various hypotheses of astral and planetary influences, the doctrine of the humors and a thousand similar whimsies wherewith the mind sought to explain the phenomena that puzzled it. In discussing this innate and necessary tendency, we must conclude that all the superstitious hypotheses which seem to us now so ridiculous were in reality an *attempt to explain,* and therefore a vindication of the scientific instinct. All scientific discovery was at first only happy conjecture, founded on previous discoveries and attended with the consideration of related instances. We alluded a few months ago to the experiments of Dr. Victor C. Vaughan on the toxicity of albumens. He—and not he alone, for many are experimenting in the same field—discovered in the non-pathogenic, as well as in the pathogenic, bacteria, a definite toxin, always present potentially in the non-pathogenic forms and always present actually in the pathogenic forms of bacterial life. It has also been shown conclusively that innocuous bacteria may develop a malignant character by being passed through certain animal bodies that have become sensitized for their reception. Have we here the theory of the beginning of specific infections? And will Acute Anterior Poliomyelitis prove to have developed a new character from a modification or re-arrangement of its bacillary molecules, whereby it has acquired the feature of infection? Or will it eventually prove not to be infectious at all? One of these things must happen.

Secretary's Page

103rd ANNUAL SESSION

St. Johnsbury, Oct. 12 and 13

Local Committee of Arrangement for 1916 Meeting

Frank E. Farmer, Chairman,
Walter Johnson Aldrich,
Hugh Herald Miltimore.

Ladies' Committee

Mrs. E. H. Ross
Mrs. H. H. Miltimore
Mrs. F. E. Farmer
Mrs. W. G. Ricker
Mrs. W. J. Aldrich
Mrs. C. A. Cramton
Mrs. F. M. Walsh
Mrs. W. B. Fitch

Official Reporter

Mrs. Ruth H. Sulloway

PROGRAM

Thursday Forenoon, 10:30 o'clock
At the Caledonia County Court House.

1 Call to order by President, Edward Harlan Ross
2 Prayer Rev. Paul D. Moody
3 Address of Welcome, Hon. Alexander Dunnett
4 Reading of Records Secretary
5 Report of Committee of Arrangements.
6 Reports of Officers, Committees and Delegates:
   (a) Secretary, J. M. Hamilton
   (b) Treasurer, C. F. Dalton
   (c) Auditor, W. F. Hazelton
   (d) Executive Committee, J. M. Hamilton
   (e) Publication Committee, J. M. Hamilton
   (f) Legislative Committee, F. W. Sears
   (g) Necrology Committee, F. T. Kidder
   (h) Medical Education Committee, F. E. Clark
   (i) Medico-Legal Committee, J. N. Jenne
   (j) Health and Public Instruction Committee, G. G. Marshall
   (k) Councillors from the four Districts,
   (l) Delegates to other Societies.
7 Introduction of Delegates from other Societies.

* * *

8 Paper, Clinton J. Rumrill, Randolph
9 Paper, John B. Wheeler, Burlington

Thursday Afternoon, 2 o'clock
at Court House

1 Vice-President's Address, Clayton Witters Bartlett, Bennington
2 Oration in Medicine, Diabetes Mellitus, John R. Williams, Rochester, N. Y.
3 Paper, Geo. Riley Anderson, Brattleboro
4 Paper, Alberic H. Bellerose, Rutland

Fixed session of the House of Delegates, at 5 o'clock P. M. at Court House.

Frederick C. Liddle, President,
Benj. Dyer Adams, Secretary,
Mrs. Mary J. Nelson, Reporter.

Thursday Evening, 7:30 o'clock
at Colonial Theatre

Public Address,
under the Public Health Trust Fund,
Mattheas Nicoll, Jr., Albany, N. Y.

To this session the general public is invited.

At nine o'clock (sharp) at the St. Johnsbury House, the Annual Dinner will be served.

Guests and ladies are invited.

Anniversary Chairman,
Frederick Ellsworth Clark,
Burlington.

Friday Morning, 9 o'clock
at Court House

A surgical clinic will be conducted by Ellsworth Eliot, Jr., Surgeon of the Presbyterian Hospital, New York City. Subject: Certain Features of the Symptoms and Treatment of Gall Stones.

10:30 o'clock at Court House

A medical clinic by John R. Williams of Rochester, N. Y. This clinic will be especially devoted to study of cases of Diabetes Mellitus, method of examination, treatment, etc.

Friday Afternoon, 1:30 o'clock
at Court House

1 Report of House of Delegates,
Benj. Dyer Adams, Secretary.
2 President's Annual Address,
Edward Harlan Ross, St. Johnsbury
3 Oration in Surgery.
Ellsworth Eliot, Jr., New York

Adjournment in season for all outgoing trains.

The exhibits of medical and surgical supplies will be in the Court House.

The headquarters of the Society will be at the St. Johnsbury House, and all are requested to register with the Secretary as early in the session as possible.

The ladies are cordially invited. They will be welcomed at the Annual Dinner and especial entertainment provided by the local physicians and their ladies.

Especial attention will be given to those who motor to St. Johnsbury through the beautiful hills and valleys of Vermont, at their best in October.

Be sure to inform the local committee on your reply card if you expect to drive your car.

The annual meeting of the Orleans County Medical Society was held at the Valley House, Orleans, Tuesday, Sept. 12, 1916, President Dr. R. M. Wells presiding. The following officers were elected for the ensuing year.

President, Dr. B. D. Longe, Newport; Vice-President, Dr. P. C. W. Templeton, Irasburg; Secretary and Treasurer, Dr. J. F. Blanchard, Newport; Censors, Dr. J. F. Blanchard, Newport, Dr. O. B. Gould, Newport and Dr. A. M. Goddard, Albany; Delegates, Dr. A. M. Goddard, Albany, and Dr. G. F. Adams, West Derby. The following were elected to membership: Dr. F. L. Lanphear, Orleans, Dr. H. E. Somers, Newport, Dr. H. E. Sargent, Island Pond. It was voted that the charge for village calls remain $1.00; outside of village 50 cts. per mile; night calls 50 per cent above day calls. After the business meeting which was called at 5:30 P. M., a banquet was enjoyed followed by papers and discussions. Dr. C. H. Beecher of Burlington gave a very interesting paper on Diabetes. Dr. Wm. Ricker of St. Johnsbury also gave a very interesting paper on the Tonsils. Both papers were well discussed. About 20 members and visitors were present. R. M. W.

Progress in Medical Science

OBSTETRICS AND GYNECOLOGY

POSTPARTUM HEMORRHAGE

Postpartum hemorrhage has always been the nightmare of the Obstetrician. The possibility of this complication is omnipresent in even the most simple of deliveries. F. W. Rice (*Jour. of Obs.*) gives a careful study of this complication in a paper recently read before the New York Obs. Society.

Dr. Rice first considers the normal method by which the placenta separates from its uterine attachment. Following the birth of the child there is a definite period of rest upon the part of the uterus — this period must not be interfered with — then the uterus again begins to contract and as a result the placenta is separated at its central attachment. During the ensuing period of relaxation hemorrhage occurs between the uterine wall and this point of separation. This progresses with the succeeding pains and relaxations, the retroplacental blood accumulates forcing the placenta away from its attachment and finally delivering it into the vagina in an inverted condition with the foetal side outermost, the retroplacental blood contained within the membranes. (Schultz's method.)

This is the most frequent method. More rarely the placenta first separates at its edges (Duncan's method) and is expelled rolled upon itself. This latter method is more apt to follow ill-advised attempts at early expression, too severe pains in the second stage or to traction from a short cord. This is the type of placenta that is most apt to cause trouble and delay in the third stage and many times must be removed manually.

During the separation of the placenta other changes are taking place within the uterine wall. The little bundles of muscle fibers which surround the blood vessels and sinuses at the placental site, are contracting and retracting there-by mechanically shutting off the blood supply to that portion of the uterus, while the contractions of the uterus compressing the larger arteries in the uterine wall, are diminishing the blood supply to the entire organ. After delivery, the uterus remains in a condition of tonic contraction preventing further loss of blood.

The average normal amount of blood lost during the third stage is one pint. Any amount much in excess of this quantity should be considered abnormal. Excessive loss of blood, short of actual hemorrhage, may be the causative factor of inability to nurse the infant, delayed recovery, anemia or lowered resistance with liability to infection.

Postpartum hemorrhage may be due to lacerations, inefficient contractions or, more rarely, hemophilia.

Lacerations of the cervix which do not enter the broad ligament rarely cause serious bleeding. Every case should be quickly, but thoroughly, examined to ascertain this fact. If the hemorrhage is from the cervix alone it may usually be controlled by simple packing of the wound, hot douching, or by simple suture.

Lacerations of the perineum rarely cause bleeding of any significance. (This is true as regards first deliveries, but where a previous child has been born, and a repair made, laceration may cause most severe and troublesome bleeding unless the offending artery is located and tied off.)

Inefficient contractions of the uterus usually mean a condition of atony. This may be due to prolonged labor, operative delivery with attending shock, fibroids, chloroform over a long period, retained placenta or clots, or adherent placenta. Retained cotyledons or membranes may be the cause of severe hemorrhages as late as the tenth day postpartum.

Bleeding following placenta previa may come from the placental site or, more frequently, from a lacerated cervix caused by an operative delivery.

Postpartum hemorrhage is best avoided by "hands off" during the early part of the third stage of labor. The tendency is to do too much rather than too little at this time. The uterus must have a period of rest following the second stage before it again takes up its efforts of contraction. Too early massage causes early, and partial, separation of the placenta, bruising of the uterus, or sets up irregular contractions.

Following the delivery of the placenta the fundus should be gently massaged for a period of one hour. Excessive oozing during the first twenty-four hours is almost invariably due to a retained clot. Vigorous massage will expel the clot and check the hemorrhage.

Keep the bladder empty to avoid distension and displacement of the uterus with consequent hemorrhages.

The most important point in the treatment of hemorrhage from the uterus is a correct diagnosis of the causative factor. If this is from the cervix it will be bright red and will follow immediately the birth of the child. It persists in spite of firm contractions of the uterus.

If bleeding from partial separation of the placenta is not controlled by securing good contractions the placenta must be delivered either by Crede or by manual removal.

In atony of the uterus (empty) Pituitrin will give prompt results. Ergot is not so rapid in its action but should follow the Pituitrin to safeguard the tendency that drug has for subsequent relaxation. If the uterus tends to relax following these methods intra uterine packing must be substituted. The effect of uterine packing in the control of bleeding is not so much due to the gauze per se as to the contractions secured by the insertion of the gauze. The firm pressure of the gauze against the walls of the then contracting organ maintains the contraction. Unless the gauze is carried to the fundus and firmly placed, it will act as a foreign body and increase the flow rather than act as a check to it.

No infusion should ever be given in cases of hemorrhage until the bleeding is absolutely under control. If given while the bleeding yet persists it will simply raise the blood pressure, diminish the coagulability of the blood and increase the bleeding. Absolute rest must be insisted upon following the control of the bleeding. Give small doses of morphia, apply heat and give liquids freely both by mouth and by rectum. R. E. S.

THE VERMONT ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS

At a meeting of some twenty interested persons held on Friday, August 11, at the rooms of the Rutland Business Men's Association, Dr. H. D. Holton, of Brattleboro, presiding, the Vermont Association for the Prevention of Tuberculosis was organized. The objects of this association are to disseminate knowledge covering the causes, prevention and treatment of tuberculosis; to investigate the prevalence of tuberculosis in the State of Vermont; to collect and publish useful information; to secure proper legislation for the relief and prevention of tuberculosis; to cooperate with the public authorities, State and Local Boards of Health, medical societies and other interested bodies in approved measures for the prevention of this disease; to enlist the active interest of as many residents of Vermont as possible in the work of combating tuberculosis and promoting the public health; and to strive for adequate provision for the tuberculous by the establishment of sanatoria and dispensaries and otherwise.

The following officers were elected: President, Thomas Magner; honorary vice-presidents, Gov. C. W. Gates, Franklin, and F. C. Partridge, Proctor; vice-presidents, Dr. H. D. Holton, Brattleboro, Mrs. R. E. Smith, White River Junction, Rev. A. H. Bradford, Rutland; secretary, H. W. Slocum, Burlington; treasurer, A. W. Hill, Burlington; assistant secretary and treasurer, Dr. Grace W. Sherwood, St. Albans; executive committee, R. M. Bradley, Brattleboro, Dr. C. S. Caverly, Rutland, M. D. Chittenden, Burlington, Dr. C. F. Dalton, Burlington, Col. C. S. Forbes, St. Albans, Dr. H. S. Goodall, Bennington, Dr. F. T. Kidder, Woodstock, Miss Emily Dutton Proctor, Proctor, Dr. E. J. Rogers, Pittsford, Mrs. B. H. Stone, Burlington, F. H. Brooks, St. Johnsbury, Mrs. Anna Hawks Putnam, Bennington.

The Prevention of Tuberculosis.—When mankind fully appreciates the fact that three out of probably every four of the so-called delicate people we know are delicate because they have tubercle bacilli, active or inactive, latent or concealed, in open or closed tissues, though most often unknown to themselves, then we may, and doubtless will, begin to arrive in perceptive visibility of the, as yet, delayed solution of the tuberculosis problem. —Way.—*Jr. Am. Med. Asso.*, Aug. 19, 1916.

The controversy regarding the degree of responsibility, for tuberculosis in man, which attaches to the tubercle bacillus of bovine

origin has gone on ever since Theobald Smith, in 1898, made his careful investigation and pointed out the differences between the two types. The vigor of the dispute has gradually waned until now it is pretty generally agreed that while cattle are to a considerable degree immune against the bacillus of the human type, human beings do not enjoy the same safeguard in respect to the bovine bacillus. During adult life, however, the danger of such infection is far less than it is during infancy and early youth.

In the extensive investigations of Park and Krumwiede, which have furnished some of the most important data respecting the types of tubercle bacilli which sojourn in the human body, it was found that out of a total of 1042 cases, only 101 were bovine in origin, and over half of these occurred in children under 5 years of age. It was noted that 51 out of 59 cases occurring in the 161 infants examined were directly or indirectly traced to alimentary infection, thus emphasizing the importance of a rigid sanitary control of milk supplies, on which infants are so largely dependent.

More recently Eastwood and Griffith, in Great Britain, have made a report of the relative distribution of the various strains of tubercle bacilli in human tuberculosis involving the bones, joints and genito-urinary organs. 261 patients were reported of which 55, or 21 per cent were of the bovine type, while 10 cases were atypical. Only 3 of those showing the bovine type of bacillus were over 16 years of age. It is of further interest to note that out of 155 cases under 10 years of age 45 cases or 29 per cent were bovine, while out of 106 cases over 10 years of age only 10 cases, or 9 per cent, were of the bovine type. Parke and Krumwiede described only 2 bovine cases out of a total of 65 cases of tuberculosis of the bones and joints. Twelve patients with tuberculosis of the genito-urinary organs disclosed only one infection of the bovine variety, the patients being, all but one, adults. Seventeen cases about equally divided between the genital organs and the urinary tract were investigated by British bacteriologists. The bacilli were of the bovine type in 3 cases, and of the human type in 14 cases. The 3 bovine cases were aged 25, 19 and 20 years, and presented involvement of the kidneys. Such investigations are of great importance. They give added assurance that although human adults are reasonably insusceptible to bovine infection, this mode of transmission can take place even beyond the years of infancy and childhood, in which the danger of infection is unquestionably great. — Editorial. *Journal American Medical Association*, May 27, 1916.

A very careful examination of the blood clots found in the heart of a patient who had died of a very severe type of general miliary tuberculosis revealed the presence of tubercle bacilli. It was estimated that there were 40 tubercle bacilli in the blood in the heart. The same method of staining showed very large numbers of bacilli in the various diseased foci. From the number of bacilli found in the heart it would seem that bacilli are scarce in the blood even in the generalized form of miliary tuberculosis. In ordinary cases of tuberculosis one would expect to demonstrate tubercle bacilli in the blood only in rare instances.

Tubercle Bacilli in Heart Clots in Acute Miliary Tuberculosis Complicating Chronic Lymphatic Myelogenous Leukemia. R. R. Dieterle, Ann Arbor, Mich. — *Journal Infectious Diseases*, Chicago, August, 1916.

H. S. G.

OUR INFANTILE PARALYSIS SITUATION

Although surrounded by epidemics of infantile paralysis, Vermont fortunately kept practically a clean sheet on this disease until the latter part of August. It is certain that every health officer and every physician in the state had been on the alert throughout the summer, and several suspicious cases in various parts of the state had been investigated with much care. Out of this list there was only one which could be called poliomyelitis. This was a case seen in Underhill in June. The patient was a twelve-year old boy, and the diagnosis was clouded by a history of a fall and possible injury to the spine. Clinically, the case was poliomyelitis, and the spinal fluid gave the characteristic tests. The case was therefore quarantined and must be reckoned as the first case this summer.

No further cases were discovered until the latter part of August, when an inspector of the State Board of Health, making his rounds

to enforce the quarantine of children from infected districts, had his attention called to a child in Barnet, who had been under quarantine for whooping cough, and after some additional symptoms developed a double foot drop. Further investigation showed that the child, a girl three years old, had had an intercurrent attack of poliomyelitis.

Next in order were the Arlington cases, where three children in the same family were afflicted. The father of the family is interested in a hotel where many parties stop for meals and lodging and the children frequently associate with the travelers. Without other known contact, the three children all developed the disease within a period of six days, all being typical with paralysis. The children apparently became infected from a "carrier" among the tourists. Within a few days another small child in the same town came down with a characteristic attack and developed a paralysis.

On Aug. 26, a child in Woodstock was diagnosed as having poliomyelitis with no other known exposure than contact with visitors from a neighboring state, who were in no way suspicious. On the same day, a nurse girl employed in a hotel in Poultney was taken sick and was removed by automobile to her home in North Granville, N. Y. There the symptoms, which had been of uncertain character, became apparent as of poliomyelitis and the case ended in the death of the girl on Aug. 30. On Aug. 31, a case was discovered in the town of Pawlet, and on Sept. 3, a definite diagnosis was made on a four-year old boy in Rutland.

Omitting the Underhill case, which hardly belongs in this series, the above record shows nine cases of the disease in Vermont at the present writing. Regulations have been promulgated by the State Board of Health forbidding the attendance of children under fifteen years of age at any fair, and also prohibiting these children from attending picture shows and theatres in Bennington, Rutland, Windham and Windsor Counties. Local boards of health are also empowered to make regulations in addition to the State rules and some have adopted additional precautions. While the campaign in this state has not been along the same lines as followed by some of our neighbouring states, it is believed that every practical precaution has been taken, and with a live profession and an alert health organization, it may be hoped that the cases of this dreaded disease will be kept at the minimum.

C. F. D.

From the Council of Pharmacy and Chemistry

During August the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Abbott Laboratories:
- Arbutin—Abbott.

National Pathological Laboratory:
- Mercurial Oil—National Pathological Laboratory.

E. R. Squibb & Sons:
- Mercury Red Iodide, 1 per cent. in Oil—Squibb.
- Barium Sulphate—Squibb for X-ray Work.
- Liquid Petrolatum—Squibb.

NEW AND NON-OFFICIAL REMEDIES

Fibrin Ferments and Thromboplastic Substances (Kephalin).—The clotting of blood has been shown to be due to the action of the fibrin ferment on the fibrinogen of the blood. The fibrin ferment (thrombin) exists in the blood in the form of prothrombin which is converted into thrombin by the action of calcium and thromboplastic substance (thromboplastin). Kephalin, prepared from the brain, has the properties of thromboplastin. Preparations containing thromboplastin are said to be useful, when applied locally, in the treatment of hemorrhages, especially hemorrhages from oozing surfaces, scar tissue and nosebleeds. The intravenous use of thromboplastin in certain conditions has also been proposed.

Brain Lipoid.—Impure Kephalin.—This is an ether extract of the brain of the ox, or other mammal, prepared according to the method of Howell and Hirschfelder. It has

the properties of thromboplastic substance described above. It may be applied direct to the tissues or on sponges or pledgets, or it may be used in the form of an emulsion with sodium chlorid solution.

Solution Brain Extract.—Solution Thromboplastin-Hess.—An extract of ox brain in physiologic salt solution prepared by the method of Hess. It has the properties of Thromboplastic substances described above. The solution may be applied directly to, or sprayed on the tissues or by means of a sponge or tampon.

Galactenzyme Tablets.—Tablets containing a practically pure culture of Bacillus bulgaricus. For administration in intestinal fermentative diseases. Put up in bottles containing 100 tablets each and bearing an expiration date. The Abbott Laboratories, Chicago.

Galactenzyme Bouillon.—A pure culture in vials of Bacillus bulgaricus each vial containing about 6 Cc. Used internally for intestinal fermentative disorders and topically in nasal, aural, throat, urethral and other affections when the use of such a culture is indicated. Put up in packages of 12 vials each. The Abbott Laboratories, Chicago.

Ampoules Mercuric Salicylate-Squibb, 0.065. —Each ampule contains 0.065 Gm. mercuric salicylate, N. N. R., in 1 Cc. of sterile suspension. E. R. Squibb & Sons, New York.

Ampoules Quinine Dihydrochloride-Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine Dihydrochloride-Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine Dihydrochloride-Squibb, 0.25 Gm.—Each ampule contains 0.25 gm. quinine dihydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine and Urea Hydrochloride-Squibb, 1 Gm.—Each ampule contains 1 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine and Urea Hydrochloride-Squibb, 0.5 Gm.—Each ampule contains 0.5 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine and Urea Hydrochloride-Squibb, 0.25 Gm.—Each ampule contains 0.25 Gm. quinine and urea hydrochloride, N. N. R., in 2 Cc. of sterile solution. E. R. Squibb & Sons, New York.

Ampoules Quinine and Urea Hydrochloride-Squibb, 1 per cent.—Each ampule contains 5 Cc. of a sterile 1 per cent. solution of quinine and urea hydrochloride, N. N. R. E. R. Squibb & Sons, New York.

Ampoules Sodium Cacodylate-Squibb, 0.13 Gm.—Each ampule contains 0.13 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York.

Ampoules Sodium Cacodylate-Squibb, 0.05 Gm.—Each ampule contains 0.05 Gm. sodium cacodylate, N. N. R. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Aug. 5, 1916, p. 437).

Arbutin-Abbott.—A non-proprietary brand complying with the standards for Arbutin N. N. R. The Abbott Laboratories, Chicago (*Jour. A. M. A.*, Aug. 19, 1916, p. 586).

Ampules Mercury Iodide (Red) 1 per cent. in Oil-Squibb.—Each ampule contains 1 Cc. of a solution of red mercuric iodide and anesthesin, each 0.01 Gm., in a neutral fatty oil. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Aug. 19, 1916, p. 586).

PROPAGANDA FOR REFORM

Chemotherapeutic Treatment of Tuberculosis.—In the August issue of *The Journal of Experimental Medicine* Koga, Otani and Takano report on a new treatment of tuberculosis and leprosy. Koga reports that the treatment of animals inoculated with a preparation of copper and potassium cyanide produces healing changes in tuberculous lesions. He also reports on the treatment of sixty-three cases and thinks that his preparation, which he calls "cyanocuprol," greatly improves or cures pulmonary tuberculosis in the first or second stages and even is beneficial in the third stage. Otani also gives a favorable clinical report of tuberculous cases. Takano treated cases of leprosy with "cyanocuprol" with what appear to be beneficial effects. The Japanese investigators give no clear statement in regard to the

composition of the copper-cyanide preparation which they used (*Jour. A. M. A.*, Aug. 5, 1916, p. 443).

Tartar Emetic and Sodium Bicarbonate Incompatible.—The A. M. A. Chemical Laboratory reports that when an aqueous solution of tartar emetic is added to a solution of sodium bicarbonate a clear solution results at first, but that on standing a precipitate of antimony hydroxide is formed (*Jour. A. M. A.*, Aug. 5, 1916, p. 462).

Ambrine.—An article "War Letters of an American Woman" in the Aug. 2 issue of "Outlook" contains a glowing account of the use of "Ambrine" in the treatment of burns by a Dr. Barthe de Sandfórt, Hospital St. Nicholas, Paris. Ambrine is a proprietary preparation which has been on the French market for years. It is a secret nostrum in that the proportions of the ingredients—"wax, paraffin and resin"—are not given. There is nothing original in an application of melted resin, beeswax and paraffin, although the correspondent of the "Outlook" seems to have been carried away with the idea that it is one of the great miracles of the day (*Jour. A. M. A.*, Aug. 12, 1916, p. 535).

Sodium Sulphate as an Antidote to Phenol Poisoning.—Sodium sulphate in strong solution is one of the best known antidotes for phenol poisoning. At one time it was erroneously thought that the antidotal effect was due to the formation of sodium phenolsulphonate. It has been suggested that whatever action sodium sulphate has as an antidote for phenol may be due to some hindrance to absorption, and possibly also to added purgation (*Jour. A. M. A.*, Aug. 12, 1916, p. 535).

Aspirin.—The patent on aspirin will expire next year. The Bayer Company, the American agents, view with disfavor the prospect of losing the right to the sole manufacture of acetyl-salicylic acid. This may explain the campaign of publicity which the Bayer Company has inaugurated in the lay press in which the public is urged to buy the Bayer brand of acetylsalicylic acid (aspirin) only. There can be no better time than the present for the medical profession to substitute for the non-descriptive name "aspirin" the descriptive and correct name acetylsalicylic acid (*Jour. A. M. A.*, Aug. 12, 1916, p. 515).

A Study of "Uterine" Drugs.—Dr. J. D. Pilcher, W. R. Delzell and G. E. Burman, working in the Pharmacologic Laboratory of the University of Nebraska Medical School, have studied the action on the excised guinea pig uterus of a number of drugs which are constituents of proprietary and "patent" "female" remedies, drugs for the value of which there is little evidence and which would have fallen into disuse but for their exploitation. The following drugs lessened the amplitude of the contractions of the uterine strips, or in stronger solutions caused a complete cessation: Unicorn root, pulsatilla, Jamaica dogwood and figwort. Somewhat less active were valerian and lady's-slipper. The drugs having very weak actions were wild yam, life root and skull-cap. Blue cohosh was most active and put uterine strips in a state of tonic contraction or tetanus. The following drugs were quite inactive: black haw, cramp bark, squaw vine, chestnut bark, false unicorn, passion flower, blessed thistle, St. Mary's thistle and motherwort. The authors are confident that the actions observed would also be produced in the intact human uterus provided the drug reached the uterus in a similar concentration but that it is improbable that the concentration of drug used could ever be attained in the body. Work which is under way indicates that these drugs do not act specifically on the uterus but on smooth muscle in general and that this general action would overbalance any favorable action on the uterus. The authors conclude that the drugs examined are practically worthless and that their use is harmful as well as futile since such use tends to perpetuate therapeutic fallacies (*Jour. A. M. A.*, Aug. 12, 1916, p. 490).

Radio-Rem.—The Council on Pharmacy and Chemistry reports that those who are well informed on the subject of radium therapy are of the opinion that the administration of small amounts of radium emanation, such as those generated by certain outfits, is without therapeutic value. Having voted not to admit to New and Non-official Remedies any radium emanation generator which produces less than two microcuries of emanation during 24 hours, the council voted not to accept Radio-Rem outfit No. 3, Radio-Rem outfit No. 2 and Radio-Rem outfit C, each of which is admitted to produce less than 2 microcuries of emana-

tion per day (*Jour. A. M. A.*, Aug. 19, 1916, p. 631).

Olio-Phlogosis.—The Council of Pharmacy and Chemistry reports that Olio-Phlogosis (The Mystic Chemical Co., Kansas City, Mo.) is not eligible for admission to New and Non-official Remedies. Olio-Phlogosis is to be applied externally by means of a cotton pad for pneumonia, bronchitis, pleurisy, etc. According to information sent to the Council it consists of glycerine to which has been added small amounts of essential oils, iodine, resorcinol, boric acid, quinine bisulphate and sodium thio-sulphate. The Council concluded that the claims for Olio-Phlogosis are unwarranted, that its composition is complex and irrational and that the non-descriptive and therapeutically suggestive name is likely to lead to uncritical use (*Jour. A. M. A.*, Aug. 19, 1916, p. 631).

Novocain.—Novocain was introduced about twelve years ago with the claim that it was from one-sixth to one-tenth as toxic as cocain. Hatcher and Eggleston have recently shown that the toxicity of cocain varies widely with different individuals and with the rate of its absorption into the circulation, and that novocain shows far greater variations. The authors are of the opinion that novocain has a distinct field of usefulness, but call attention to the fact that death has followed the clinical use of small doses and that toxic symptoms have been reported by numerous observers (*Jour. A. M. A.*, Aug. 26, 1916, p. 685).

Quality of Chlorinated Lime.—J. P. Street, chemist in the Connecticut Agricultural Experiment Station, reports that of twenty-five samples of chlorinated lime (bleaching powder) which, according to the United States Pharmacopeia, should contain "not less than 30 per cent. of available chlorin," only three were found of full strength. Eight contained but traces of available chlorin. This is a dangerous situation when it is recalled that the public as well as the medical profession puts great dependence on the disinfecting powers of this inexpensive material (*Jour. A. M. A.*, Aug. 26, 1916, p. 695).

News Notes

Dr. William B. Mayo of Northfield heads the ticket which the Democratic State committee has decided to put in the field at the September primaries. Dr. Emmet B. Daley of Bennington is on the ticket as congressman from the first district.

Dr. Henry A. Ladd, of Burlington, inspector for the State board of health, left August 18th for Washington, D. C., to attend a conference of public health officials to be held there in regard to the prevention of the spread of infantile paralysis.

Dr. H. J. Millard, the oldest practicing physician in North Adams, Mass., observed August 16th the fiftieth anniversary of the opening of his office in that city. Dr. Millard, who is a native of Stamford and a member of the well known family of that name there, has long been recognized as one of the leading medical men of this country and though he long since passed the three score years and ten mark he is yet engaged in practice. He served as an army surgeon during the Civil War and when the conflict was over returned to North Adams.

Dr. J. M. Allen of St. Johnsbury has been at the Massachusetts General hospital for two weeks' work in surgery.

Dr. and Mrs. C. F. Whitney of Burlington have returned home from Detroit, Mich., where Dr. Whitney attended the American food, dairy and drug convention.

A call for a prescription, No. 6, written in 1869, was made at a Middlebury drug store recently and was found. Through several changes in ownership

of the store the file of old prescriptions has been kept intact.

Dr. L. T. Page of Wilmington has obtained a judgment against Mosher & Tucker for $53.55 and costs of $11 because a runabout which they delivered to him in July, 1915, was not as represented.

Dr. Arthur J. Ellis, formerly of Rutland, has been appointed Federal medical inspector in New York during the infantile paralysis epidemic. Dr. Ellis was born in Rutland, is a graduate of the Rutland high school, class of 1908, and is an alumnus of the University of Vermont.

The Caledonia County Medical Association and the Shriners held a joint picnic and banquet at the Pavilion on Point Comfort at Joe's Pond recently and the medical society elected the following officers: President, Dr. F. E. Farmer of St. Johnsbury; vice-president, Dr. David R. Brown of Lyndonville; secretary and treasurer, Dr. H. H. Miltimore of St. Johnsbury.

Dr. Hugh Hanrahan of Rutland has returned home from New York, where he has been taking examinations. He will locate in Rutland January 1st. Since his graduation from the College of Medicine of the University of Vermont a year ago, he has been at the Fanny Allen hospital, Winooski park, as an interne.

Dr. Arthur Burnham of Norwich has returned from a visit to the National Acme hospital at Cleveland, Ohio, and has begun his duties at the Windsor plant of this company, where he will act as director of the medical department. He is now assisting in the arrangement of the hospital which the National Acme company will have in Windsor.

Dr. E. L. Averill of Brandon is going to Cleveland, Ohio, to locate.

Dr. John D. Hanrahan of Rutland, who announced that he would be a Democratic candidate for city representative, reconsidered the matter and did not enter the race.

Dr. M. F. McGuire of Montpelier, who has been suffering from infection in a finger since he returned from a visit in Canada several weeks ago, is so much improved that he has left Heaton hospital where he went for treatment. It was necessary to have the bone scraped twice.

Dr. E. O. Chellis, eye specialist, has moved from Springfield, where he has been for the past three years, to Rutland. Dr. Chellis is a graduate of the Baltimore Medical College, took post-graduate work at the Post-Graduate Medical School and Hospital in New York and has been at the University of Vermont for a year's work.

Dr. and Mrs. H. C. Tinkham of Burlington have gone on a month's motor trip through New England and the Adirondacks.

The members of the Franklin County Medical Association held their annual outing at Highgate Springs August 22nd, about twenty members attending. They had dinner at the Lakeside Inn and the afternoon was given over to a baseball game in which the "Heavy Sluggers" defeated the "Light Feet" by a score of 45 to 10.

Dr. Stacey W. Boyle, who opened an office in Middlebury for the practice of

medicine last December and left about four weeks ago, saying he was going to France to enter the French army, committed suicide at Colon, Panama. Dr. Boyle was on his way from New York to Peru where he had been engaged as one of the five physicians at the mines of the Cerro de Pasco Mining Co. Evidently he changed his plans after reaching New York as he sailed for Peru August 12 on the fruit steamer Pastores. Passengers on the boat stated that Dr. Boyle acted strangely on the trip. He shot himself through the head about two hours after landing at Colon. Dr. Boyle, who was 39 years old, was the son of Dr. Charles C. Boyle, an eye specialist of New York city, with an office at 40 East Forty-first street.

From Our Exchanges

POLIOMYELITIS vs. OTHER INFECTIOUS DISEASES

Great catastrophes teach great lessons, and the greater the catastrophe the more impressive the lesson. Immediately after a disastrous railroad accident, a shipwreck or a sensational fire, in which lives are lost, action is always taken to safeguard the public against such particular incidents in the future. But a broad application of the lesson is seldom, if ever, made. The lesson of the Slocum fire, with its frightful loss of life, was applied only to safeguarding against a repetition of an identical occurrence in the future; the conditions which caused the disaster of the Eastland, for instance, were not anticipated. The sudden development of the present epidemic of poliomyelitis with its mortality and its train of crippled children has awakened special interest in this disease; all over the country boards of health are realizing their responsibility in regard to it. But it must not be forgotten that this particular epidemic is infinitesimal as compared, either in number or in total mortality, with the old enemies that are always with us. We are reminded of this by the *Survey,* which calls attention to the fact that during May, June and July there were 3,205 cases of poliomyelitis in greater New York, while during the same period there were 9,710 cases of measles. The latter, like vice, is with us always, and we have become accustomed to it. And yet the total mortality over an extended period from this disease is far greater than from poliomyelitis. Diphtheria, scarlet fever and the ever-present tuberculosis are today hardly given consideration; yet the total mortality from any of these diseases is infinitely greater than that from poliomyelitis, including epidemics. We are apt to forget that the latter disease is always with us, and that the present occurrence is merely a "flare-up," just as we have similar exacerbations of the other acute infectious diseases.—*Journal of the American Medical Association.* August 26, 1916.

A PROBLEM

One of our valued exchanges opens a paper with the assertion that "Venesectomy is rapidly gaining favor in the minds of those who seek a means of lessening the number of children of criminals" and more to the same effect. Naturally one wonders if these seekers after good have ever considered the somewhat grave responsibility they take upon themselves of extinguishing human life. The son of a "criminal" has been known to grow up a very decent and orderly man, and it has been known, in times past, at least, that the son of a highly respected gentleman has sunk to the lowest depths. If eugenical science has developed to the point where its priests can decide on the character of possible unborn children, it should have a niche in the modern Pantheon. But we have our doubts.—Editorial in *Homeopathic Recorder.*

CARBON MONOXID POISONING

Yendell Henderson, New Haven, Conn. (*Journal A. M. A.,* Aug. 19, 1916), calls attention to the fact brought out in the investigations of the U. S. Bureau of Mines that there

is a widespread misapprehension of some of the fundamental elements concerned in carbon monoxid poisoning. Carbon monoxid is the principal product of incomplete combustion of carbonaceous matter, and is responsible for more deaths than all other gases combined. It is almost odorless and has no irritating effect on the lungs. Its poisonous effect is entirely due to its avidity for hemoglobin, the red coloring matter of the blood with which it forms the same kind of combination as does oxygen, but 250 times as strong. Its poisonous effects seem to be wholly due to the resulting decrease in the oxygen-carrying power of the blood. It is misapprehension, however, to suppose that the compound is permanent or induces any lasting deterioration of the oxygen-carrying power. The combination of the carbon monoxid immediately begins to break up when oxygen can be introduced or the sufferer is carried into fresh air, if this is done within fifteen or twenty minutes or half an hour. Very often, however, the victim never recovers consciousness and dies a day or two latter. Use of bleeding and transfusion is seldom effective and the patient, if he recovers, does so in spite of them. Left to itself, nature does all as far as we now know to stop the sequels of the poison. As a rough estimate it may be stated that usually a man will die who has breathed 0.2 per cent. of carbon monoxid in normal air for four or five hours, when with from 2 to 5 per cent. carbon monoxid, as in coal dust explosion, nearly all the hemoglobin is combined in the first few breaths drawn and death occurs almost as quickly as in drowning. It is the custom in testing air in mines after explosions to carry a small bird in a cage which can be shut off at once from the surrounding air and oxygen introduced. We have found that the birds can be temporarily asphyxiated and again resuscitated many times, which would be impossible if the carbon monoxid had any poisonous action apart from its action on hemoglobin. About all that can be done in case of poisoning is to administer artificial respiration when that of the patient has failed, to administer oxygen for half an hour, to keep the patients warm if their temperature has fallen, to supply water to the system, preferably by a Murphy drip, and otherwise give them good nursing and such symptomatic treatment as seems advisable. Henderson adds to these rather negative suggestions one of an experimental character, owing to the resemblance of the coma to that of diabetes indicating an intense acidosis. Accordingly, in two cases he administered a 3 per cent. solution of sodium bicarbonate intravenously, in one case the total of 2 quarts given at intervals in two hours and in the other 4 quarts in six. His conclusions are as follows: "1. Carbon monoxid is a physiologically harmless gas, except in its affinity for hemoglobin. Its toxic effects are wholly due to the inability of the blood combined with carbon monoxid to transport oxygen to the tissues. 2. Carbon monoxid does not form a permanent compound with hemoglobin. In the presence of excess oxygen, or even of pure air, carbon monoxid is rapidly given off and the oxygen carrying power of the hemoglobin is restored. 3. The continuance of coma, the subsequent tissue degenerations and death after several days, resulting from carbon monoxid poisoning, are not due to retention of the gas, but are the results of injury to the brain and other organs by the insufficiency of oxygen supplied to them by the blood while the patient was breathing the gas. 4. There is no reason to believe that either bleeding or transfusion of blood is beneficial. They are more likely to be harmful. 5. Fresh air—with oxygen inhalation for a short time as early as possible—symtomatic treatment, and good nursing are the only measures to be recommended. Practically the die is already cast for death, permanent defects, or complete recovery at the moment when the patient is brought out of the asphyxial atmosphere. 6. It is just possible theoretically that alkali therapy may be beneficial in combating the acidosis induced by asphyxia."

INFANTILE PARALYSIS

R. W. Lovett, Boston (*Journal A. M. A.*, Aug. 5, 1916), offers a systematized plan of treatment of cases of infantile paralysis. We have at the outset of this disease a virulent acute infection with a high mortality. Then comes a period of two years of gradual more or less partial convalescence. Few affections offer a wider range of requirements from a

therapeutic point of view, and if when we are treating the first stage we bear in mind what may happen to the patient in the third stage we can treat the early stages better. The stage of onset begins with the acute attack and may be assumed to end when the tenderness has disappeared, a duration in general of from four weeks to three months. Hemorrhagic myelitis is present and widespread, affecting chiefly the motor centers, though the others are also involved. In this stage there is no serum or drug or procedure that is known to abort the affection. The patient should be kept quiet. Joints will not stiffen, hopeless muscular atrophy will not occur and the damaged cord will have the best chance to repair. Deformity should be prevented by keeping the feet at right angles to the leg to avoid the common occurrence of a dropped foot. Toward the end of this period immersion in a warm salt bath is desirable and permits a degree of exercise to the affected limbs. Scoliosis begins frequently and is often overlooked. The second stage, or stage of convalescence may be assumed to begin at the disappearance of tenderness and to last for two years or more, after which the disease is more or less stationary. The hemorrhagic myelitis is subsiding and the perivascular infiltration being absorbed. The clinical manifestations are an erratic widespread motor impairment, more often a weakening than a complete paralysis. The problem at this stage is to restore the maximum function to the affected muscles in the best way. It is a very important matter to the patient not to be left with weakened muscles, and the measures to best prevent this should be carefully studied. Lovett believes in getting the patient on his feet as early as possible and that prolonged recumbency is bad for the child. If apparatus is needed for ambulatory treatment it should be used, but worn only in walking and not continuously. A good general rule is that it should be used when the patient cannot stand without it. The two conditions most frequently overlooked which lead to serious results are weakening or paralysis of the abdominal muscles and scoliosis. In his opinion when these occur the use of a cloth corset or plaster jacket is imperative. The direct therapeutic treatment of the muscles consists in massage which is of use because it empties the veins and lymphatics and thus promotes the flow of blood to the limb, and because it apparently retards muscular atrophy and promotes muscular tone. Given roughly or for too long a time it is detrimental. Faradism causes a mild muscular contraction and may be a useful form of gentle exercise if not disagreeable or terrifying to the child. The galvanic and newer forms of electric treatment are assumed to be beneficial. Its routine use has done harm, not only because too strong currents have been used, but it deludes the physician and parents into thinking that adequate treatment is being given when measures of more value are being neglected. Heat is of value because it raises the temperature of the limb, favors muscular contraction and stimulates the flow of blood. Muscle training is, in Lovett's opinion, the measure of greatest value at this stage. Properly used it attempts to drive an impulse from brain to muscle to enable it if possible to open a new path around affected centers in the cord. He quotes from the records of the Vermont epidemic to show its value. Deformity occurs in many forms, but its therapeutics are easily formulated. In the early stages it is generally preventable by avoiding persistent malposition. If fixed deformity exists it must be removed before undertaking treatment, operative or otherwise. Stretched muscles are at a very great disadvantage as far as recovery goes, and fatigue and overtreatment are detrimental. The advice often given to use the affected limbs as much as possible is, Lovett thinks, the worst advice that can be given. It is difficult to underuse such muscles, but fatally easy to overuse them. The third stage is generally called the stationary one, and begins about two years after the onset. The requirements of the preceding stage as to the care of the muscles, etc., still exist, but are less urgent. When cases have not been treated earlier they may often be improved by muscle training and the requirements for apparatus are much the same throughout. The treatment now is chiefly operative. Under this head Lovett mentions tendon transplantation, arthrodesis, astragalectomy, tendon fixation or tenodesis. Arthrodesis is being replaced largely by astragalectomy.

SOME IMPORTANT PATHOLOGICAL CONDITIONS ABOUT THE RECTAL OUTLET

By Granville S. Hanes, M. D., F. A. C. S., Louisville, Ky.

Tubercular ulcerations do not occur as frequently in the mucosa of the rectum and sigmoid as is generally believed. Amebic and various types of bacterial ulceration produce dysenteric symptoms that often lead to emaciation and exhaustion. Active tubercular ulceration is always accompanied by a decided increase in the temperature and pulse rate. These are not characteristics in other types of ulceration. In tubercular ulceration there is a history of constant and progressive symptoms while in amebic there is usually a history of improvement and relapses. Tubercular ulceration involving the rectum and sigmoid seldom yields to treatment. Amebic ulceration in this climate can be cured by one method or another.

Bacterial types of ulceration are usually very difficult to treat. Within the last two years I have found cauterization with the high tension electric spark to be a most valuable means of treatment.

Tubercular abscesses often occur about the rectum when patients otherwise show no evidence of tuberculosis. The abscesses and subsequent fistulae are characteristic in that there is a great tendency to undermining of the skin. The external openings are, therefore, large with a livid appearance of the surrounding cutaneous structures. They point to impending trouble which may be precipitated months or years hence. This being true it is of great importance that we direct the habits, hygiene, etc., of individuals thus afflicted.

Fistulae of long standing with one or more very small external openings with a history of an extensive abscess are very difficult to cure. From external evidences they appear to be very simple. Usually the finger when introduced well into the rectum will be able to detect by careful palpation the hard indurated sinuses which often extend surprisingly high up by the rectum.

Internal fistulous openings rarely, if ever, perforate the rectal wall unless there is some pathology primarily in the rectal mucosa whereby its resistance is impaired. The internal openings of the fistulae are usually in the anal canal. The anal tissues are most always diseased before the abscess is formed, therefore it is reasonable to suppose that the infection passes out through the diseased anal structures and is responsible for the abscess.

There are occasional fistulous tracts that extend up by the rectum to considerable heights and are very tortuous. It is difficult to follow these sinuses to their terminations when operating. When the wound heals and a small opening remains we may feel fairly certain that some part of the original fistula was not reached. It is then advisable to inject bismuth paste which will often effect a cure.

Pruritus ani is undoubtedly a local infection. The focus of the disease is below the pectinate line and at the anal margin. It has been my practice to remove the diseased tissues at the margin of the anis and from the emulsion of these diseased structures bacteria are cultivated and an autogenous vaccine administered to the patient. The operation with autogenous vaccine obtained in this manner gives decidedly the best results.

PRELIMINARY REPORT:—ANATOMICAL AND BACTERIOLOGICAL FINDINGS OF THE ANORECTAL REGION

Dr. J. Rawson Pennington, Chicago

Today the question of "focal infection" is uppermost in the minds of the medical profession. Much consideration has been given to practically every point in the body from which focal infections may emanate except that of the anorectal region.

Experimental investigations show that not only Crypts of Morgagni, but what appears to be diverticuli are found also in this region. The Medical Research Laboratory of Chicago, to whom specimens were submitted for examination, reports that these diverticuli are lined with stratified squamous epithelium. Also that streptococci, staphylococci, colon bacilli, and other bacteria were found in their tunics and sacs.

We have observed that local and constitutional diseases may be produced by injecting the various bacteria obtained from these diverticuli into animals.

I am investigating the value of these diverticuli as points of focal infection and their role as causative factors in hemorrhoids, fistula, constipation, arthritis, endocarditis and other acute and chronic, and local and constitutional infections.

INTESTINAL SYMPTOMS DUE TO ACHYLIA GASTRICA

By Alois B. Graham, A. M., M. D., F. A. C. S., Clinical Professor of Proctology, Indiana University School of Medicine, Indianapolis, Indiana.

In 5758 patients presenting gastro-intestinal symptoms, and in every one of whom repeated gastric analyses were made, a diagnosis of Achylia Gastrica was made in 378. This is about 6.5 per cent, or a ratio of 1 to 15. 100 were males and 278 females. The youngest was 17 years, the oldest 73 years. 60 per cent were between the ages of 40 and 60 years. In 90 per cent the subjective symptoms were chiefly intestinal in character. The bowels were reported regular in 38; constipated in 112; loose (diarrhoea) in 142; irregular in 86. Diarrhoea was the most frequent symptom and was present in 37.5 per cent of the cases. Description of three groups of cases. Description of the stools which were at times quite characteristic. Rectal symptoms rarely reported. Internal hemorrhoids found in every case. Rectal examination of no value, except that of exclusion, in determining the cause of the intestinal symptoms. In cases where constipation was chief symptom, there was not anything of special interest.

There was no return of the gastric secretion in any of the cases. The course of Achylia Gastrica is a protracted one. Under proper therapy the prognosis, as to fairly good health, is excellent.

Diet alone in the severe cases of diarrhoea was not successful. Astringents and intestinal irrigations were unsuccessful. Hydrochloric acid and pepsin in sufficient dosage is rational therapy and the only one which gave anything like satisfactory results. In some cases diet and hydrochloric acid failed. In these cases a nervous element was present as the administration of bromides in suitable dosage produced most excellent results.

Patients are comfortable as long as they continue treatment. If discontinued even for a brief period, there is a recurrence of the diarrhoea. These patients should be correctly informed as to the prognosis; namely, that as long as there is evidence of an absence of the gastric secretion, just so long must they adhere to a rigid diet and take hydrochloric acid and pepsin.

MALIGNANT TRANSFORMATION OF BENIGN GROWTHS

By Frank C. Yeomans, A. B., M. D., F. A. C. S., Adjunct Professor of Proctology, N. Y. Polyclinic Medical School and Hospital, New York City.

The benign tumors of the colon and rectum considered were of the polypoid type, solitary polyp, multiple polyposis, multiple adenomata and villous tumor. All originate from the intestinal mucosa, are of the same histologic structure but differ in number, size, form and the relative amounts of glandular and fibrous tissue present.

The writer cites the theories of origin of multiple adenomata as advanced by Meyer, Liebert and Schwab and G. Hauser and H. C. Ross's views on the formation of benign growths. Yeomans thinks these tumors inflammatory in character and notes the frequent history of colitis or dysentery in these cases, intestinal parasites as causal in others and the positive evidence of the role of irritation as furnished by therapy, colonic lavage, or colostomy and irrigation benefiting some patients and curing others. He reports a case of multiple adenomata in a man, aged 30, colostomized in 1913, with marked benefit. Many tumors have disappeared, the remainder have retrogressed and the patient is working regularly. There is no evidence of malignant change.

That benign growth becomes malignant is beyond cavil but its cause involves the same enigma as the cause of cancer itself. The writer cites the work on neoplasms of Waldeyer, Adami, Cathcart and others, as well as research on the transplantation of tumors and the

parasitic theory of their origin. He concludes: "All that can be stated positively is that cancer begins as a small local process; that it excites no reaction in the blood whereby a diagnosis can be made; that the individual cancer cell is the parasite of cancer, and whatever eventually explains the origin of cancer will also explain the transformation of a benign into a malignant growth."

Yeomans reports the transformation of a simple adenoma into an adenocarcinoma in a man, aged 76, who had rectal bleeding of 8 years' duration, progressive constipation and a tumor that in recent years could not be reduced within the rectum. The tumor, 3½ by 2 inches, was attached just within the anal verge. It was removed under local anesthesia and both clinically and histologically was adenocarcinoma.

Villous tumor or adenoma tends to recur in malignant form so should be extirpated early radically.

Multiple adenomata are the most important and serious type of benign growth of the intestine. Their usual site is the lower colon and rectum. Clinically they are malignant from diarrhoea, hemorrhage, etc., and if neglected over 40 per cent become actually malignant. Improper local treatment, as snaring, curettage and cauterization is followed by malignant recurrence in a large proportion of cases.

The curative procedure indicated is enterotomy, either in the colon above the growths, or in the terminal ileum when the entire colon is affected. If the tumors disappear, the enterotomy may be closed. If they persist after prolonged irrigation, and the patient's general condition warrants it, partial or total colectomy is indicated with implantation of the ileum low down into the sigmoid, the operation being performed either in one or preferably in two stages.

THE TREATMENT OF HEMORRHOIDS BY A NEW METHOD

E. H. Terrell, M. D., Richmond, Va.

The author presents a simple, safe and efficient method of curing selected cases of hemorrhoids by the injection of quinine and urea solution. During the past two years 127 patients have been treated by this method with only one recognized failure. Injection of quinine and urea in solutions of from 5% to 20% strength produces starvation and atrophy of the hemorrhoids. The series reported includes only uncomplicated internal hemorrhoids. The results of the treatment of 127 patients justify conclusion that the method is simple, safe and effective in properly selected cases.

OBSERVATION ON FISSURE IN ANO

Rollin H. Barnes, M. D., Editor of The Proctologist and Gastroenterologist, St. Louis, Missouri.

The author considers fissure as an ulcer and believes that traumatic causes are not true etiological factors in the production of this trouble but that it is necessary that the tissues become inflamed and hence friable and easily torn in order that fissure be formed. He believes that catarrhal inflammatory conditions are frequently the result of an excessive carbohydrate diet and sometimes an excessive fat diet.

In the treatment of fissure he recommends palliative treatment by correcting the diet with reference to the excesses of carbohydrates and fats, and placing the patient on a proteid diet for a time. When operation is necessary he believes that the object should be drainage rather than paralyzing the muscular fibers. He also advocates the use of a small enema before defecation in order to avoid irritation from the stool. It is very important to keep the wound clean by hot sitz baths and the hot enema, in order that any foreign substance may not remain in the wound.

ABSTRACT ON THE ETIOLOGY OF VACCINE TREATMENT OF PRURITUS ANI

Louis J. Hirschman, Detroit, Mich.

Hirschman presented a preliminary report of his work on the bacteriology of pruritus ani as based on the original work of Murray at Syracuse. The work of H. C. Ward, bacteriologist, in conjunction with Hirschman's work shows that the streptococcus faecalis was present in the twenty-five cases, but the vaccine treatment in these cases, especially that of the autogenous vaccines, has resulted in important or systematic cure in but four cases, while the treatment of the surgical lesions present, or by dietary or hygienic measures, has resulted in relief or cure of all the remaining cases.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 10 $1.00 per Annum

Rutland, Vermont, October, 1916.

Original Papers

PRESIDENT'S ANNUAL ADDRESS.

Delivered at the 103rd Annual Meeting, St. Johnsbury.

EDWARD HARLAN ROSS, M. D.,
St. Johnsbury, Vt.

PELVIC PAIN.

The term pelvic pain is intended to cover pain caused by disturbed function of the pelvic organs. These organs, of course, are the bladder, sigmoid and rectum, and occasionally the appendix, and in woman the uterus, ovaries and Fallopian tubes, as well.

Manifestly a consideration of every form of disturbance in so many organs which might result in pain, cannot be covered in the time allowed me.

Inflammation alone of these organs causes such a formidable array of diseases, all attended by more or less pain, that it is only possible to mention them without any discussion. Here we have cystitis, sigmoiditis, proctitis, appendicitis, peri and intra-uterine inflammations, oophoritis and salpingitis. Add to these the painful conditions ensuing from the various flexures and versions of the uterus and displacements of the ovaries and uterus and the list becomes more formidable, and there still remains the by no means inconsiderable number of new growths giving rise to tumors both benign and malignant, which can and do develop in these organs. The painful symptoms arising from emptying the pregnant uterus, either before or at full term, are so familiar to all of us that they demand only passing mention.

There are, however, three conditions which may be called emergency cases which can best be illustrated by giving the actual case histories. I was called in consultation to see a young woman who had been married about two years. She had never been pregnant. Her menstrual life had been normal, except that she had considerable dysmenorrhea at her periods and gave a history of previous salpingitis. Two months before the flow was much less than usual, only lasting two days instead of the accustomed five days, and was lighter in color. One month previous she had not flowed at all, but on two occasions during the last month she had noticed a slight show of bloody fluid which lasted only a few hours. In the afternoon she was taken suddenly with a severe stabbing pain in the right lower abdomen, attended with nausea and faintness. Her physician was called at once. He found her still suffering severely with a rapid pulse, somewhat pale, tender over the lower abdomen, and having a slight bloody discharge from the uterus.

I saw her with her physician, in the evening of the same day. The condition was much the same, except that the pulse was not quite so fast, the pallor

not quite so pronounced, and the pain very much less. She was still very tender over the lower abdomen and bimanual examination was difficult, but a fullness and boggy feeling mass could be demonstrated in the posterior cul de sac, more marked on the right side. We advised immediate removal to the hospital and operation as soon as possible. Upon reaching the hospital her condition seemed to be slightly improved so that operation was postponed until morning.

Upon opening the abdomen there was an escape of bloody fluid, dark in color. The right tube was found to be distended to about one inch in diameter and still bleeding slowly from its fimbriated extremity and the pelvis pretty well filled with clotted blood. The tube was removed, the abdomen swabbed out and closed, and the patient made an uneventful recovery. She has since been normally pregnant and borne a living child. Here was a fairly typical case of ectopic pregnancy with tubal abortion.

These cases usually give a history of previous sterility, or perhaps of previous abortions and often times of preceding tubal inflammation, then for two or three months some alteration of the menstrual function either profuse or diminished, and also frequently of irregular bloody discharge containing shreds of tissue which are portions of the decidua. There may also be some slight pain, intermittent in character and not very severe, on the side affected. Examination may reveal an enlarged and tender tube which should not be confused with a retroverted pregnant uterus. Cases have been reported in which rupture of a tubal pregnancy has occurred in trying to replace a supposedly retroverted pregnant uterus. Unfortunately the diagnosis of tubal pregnancy is seldom made before rupture or tubal abortion ensue. This is very often because the case does not come to us until the damage has been done, and also because the diagnosis frequently presents some difficulties even if they do come to us.

However, when we are called to a case giving a history something like that already outlined or to one without that history, who has supposed herself to be pregnant and we find her in severe stabbing pain referred to either side of the lower abdomen and showing all the symptoms of shock, rapid, soft pulse, pallor, anxious expression, cold extremities, nausea and vomiting, I believe the diagnosis should be made at once and immediate operation done.

There are some authorities who take the ground that the shock of operation added to the shock of rupture contraindicates operation until the primary shock has passed. But it seems to me that the danger in these cases is from hemorrhage rather than shock; that while waiting for the shock to pass the patient may die from hemorrhage. Once your hemorrhage is securely checked by ligature of the bleeding vessel, the condition soon improves if you have taken the precaution to supply sufficient fluid to the circulation to keep the heart at work, by hypodermoclysis during the anaesthesia and preparation and, if necessary, by giving normal salt solution intra-venously during the operation and re-enforcing this by large quantities administered by rectum either by the Murphy drip method or by repeated high enemas of salt solution.

Rupture of the tube is usually attended by much more severe and rapid

hemorrhage than is produced by tubal abortion, and this is especially true of rupture at the cornual extremity. In tubal abortion the foetus in its unruptured sac sometimes continues to live and gets its blood supply from a placenta that has been only partially detached from the tube. It may even go on to full term and be delivered by operation or die after a spurious labor and be finally calcified and become a lithopedion, though such a result would, as Deaver expresses it, "presuppose a series of diagnostic failures which, we trust, now that the condition is so well understood, may not come to pass." It should be remembered that even if the woman recovers from the primary rupture, hemorrhage and shock that the danger is not passed. She has still to face the risk of a renewal of the hemorrhage either from rupture of the sac or further detachment of the placenta, as well as the not inconsiderable danger of serious infection due to the presence of free blood in the abdominal cavity.

I have seen a woman recover from a condition, in which it seemed impossible for her to live, from a ruptured ectopic pregnancy without operation. On the other hand, rupture or abortion may cause so few symptoms as to pass unnoticed, and may be discovered when operating for other conditions.

For the reasons that we can never be certain whether the hemorrhage will be large or small, whether it will stop or continue, whether it will recur after an interval of greater or less time or not, nor whether infection can be escaped or not, I feel that every case of ectopic gestation should be operated as soon as the diagnosis is made. The risk of waiting is greater than the danger of operating.

The second condition which I wish to call to your attention will be illustrated by the following case.

I was called out of town to see a woman about thirty years old who had already given birth to two children. She had passed the last two menstrual periods without any flow and had the other usual symptoms of pregnancy. Her physician gave the additional information that she was known to have a pelvic tumor about the size of an orange, or perhaps a little larger, presumably a cystic left ovary. He had been called to her about twenty-four hours previously and found her suffering severe pain in the pelvis accompanied with shock as shown by pallor, restlessness, anxiety and rapid pulse. A few hours later the symptoms were the same except that a tumor could be palpated just above the pelvic brim. Still a few hours later this tumor had increased in size considerably and had reached a point nearly midway between the symphysis pubis and the umbilicus. Her condition became progressively worse until at the time I saw her she had a pulse of 140 and temperature of 101°. The abdomen was greatly enlarged and decidedly rigid. A hard, smooth tumor could be demonstrated in the center of the abdomen reaching to slightly above the umbilicus, and there was fluid in both flanks. There had been almost continuous nausea and vomiting and she was very weak and despondent about her condition.

It seemed best to operate at once without attempting her removal to the hospital, which would have necessitated several hours delay. The operation dis-

closed a large amount of bloody fluid and a tumor two-thirds the size of a pregnant uterus, dark in color, quite hard, perfectly smooth, attached to the left broad ligament by a pedicle twisted one and a half turns upon itself. In fact it was an ovarian cyst with a twisted pedicle, filled with clotted blood and under such pressure from the inside that the sac had ruptured in two places and permitted the escape of a moderate amount of blood into the peritoneal cavity.

Its removal was easily and quickly accomplished and recovery was speedy and uneventful. The two months' pregnancy was undisturbed, as her physician informed me that he attended her in a normal confinement at full term.

Small ovarian cysts of the right side very frequently cause all the symptoms of acute appendicitis if their pedicle becomes twisted. Here also confusion may arise between a case of ectopic pregnancy and appendicitis. A careful consideration of the preceding history and a bimanual examination, under ether if necessary, will usually clear up the diagnosis.

These cases of twisted pedicles can only result in tumors with a fairly long pedicle, which are freely movable and not fixed in position by adhesions nor by any asymmetry of shape. Probably because the cystic tumors more often fulfill these conditions than any others they are those most commonly affected. The symptoms are severe pain and very marked shock and many times in the cystic variety a sudden and progressive increase in size of the tumor. The twist in the pedicle naturally affects the venous blood supply first and cuts off the return of blood from the tumor, while the arterial supply continuing causes the suddenly progressive increase in size, the amount of increase being determined by the distensibility of the tissues of which the tumor is composed. The shock in these cases is often very marked, and the hemorrhage into the tumor may be so great as to cause sudden collapse and death. In case the patient survives the primary shock and hemorrhage she still has to meet the dangers of extensive peritonitis and suppuration of the tumor's contents, as indicated by succeeding chills and fever, or occasionally a new blood supply may be, in time, established for the tumor by the formation of numerous adhesions to surrounding organs. Inasmuch as danger is great from the first and the only possible results of postponed operation are either dangerous or highly undesirable, immediate operation is imperative.

Rupture of the pregnant uterus is fortunately uncommon, but its results are so serious and its mortality so great that we should always bear in mind the possibility of its occurrence. The only case which it has been my misfortune to attend happened during pregnancy.

The patient was in apparently excellent health at the time. She had one living child about six years of age. Two years before I had delivered her of twins which had died in utero at about seven months probably because of albuminaria which had existed for a month before their delivery. Her recovery from this pregnancy had been uneventful and she had been in very good health ever since. Her urine became normal and there had been no albumen in the urine even after she again became pregnant. Everything seemed

going well but she on several occasions told me that she did not expect to live through her confinement. About three o'clock one afternoon she came to my office and told me that she had fallen on the icy sidewalk and was considerably shaken by the fall, as she was then in her eighth month. There was no pain and no special discomfort complained of at this time. She walked to her home which was about a quarter of a mile away. About six o'clock of the same day her husband called me saying that his wife was very ill and asking me to come at once. I found her suffering from severe pain in the abdomen, a good pulse and no elevation of temperature. As she had once or twice before called me for intestinal indigestion attended with severe colicky pain I advised an enema and assisted in giving it to her. While sitting on the stool she complained of faintness and her pulse became rapid and small; we had to lift her onto the bed and in an hour from the time I was called she died in collapse.

The autopsy showed the abdominal cavity filled with blood and a rent in the fundus extending from the right cornu diagonally across the fundus a distance of three inches. The uterine wall was considerably thinner at this point than elsewhere. Presumably this portion of the uterine musculature may have been weakened by the over distension of her twin pregnancy. Rupture of the gravid uterus more often occurs during labor and may be due to a variety of causes, such as weakened areas, over distension, contracted pelvis, malpresentations, hydrocephalus, ventro-fixations, version, forceps, improper use of pituitrin, etc

When it does occur surgical treatment should be given at once if possible. If rupture is discovered before the delivery of the child, the uterus should be emptied as quickly as possible, from below, when labor is sufficiently advanced, from above, by laparotomy when it is not possible to be delivered normally. Laparotomy will probably be necessary to repair the damage in any event.

If the child has already been born and immediate operation cannot be done, it may be of service to carefully and firmly pack the uterus and vagina with sterile gauze and apply pressure from above by means of a firm pad and tight binder.

This should be considered only makeshift treatment and direct surgical interference by laparotomy with suture of the tear or by hysterectomy should be resorted to after the first shock is past.

DISCUSSION

Dr. Bartlett.—Gentlemen, if there is no one else, I am going to say just a word myself with relation to rupture through the Fallopian tube, or of the uterus, during the early months while the fetus is still small, and treatment and management of such cases. Now if it is possible to open the abdomen in bad cases, those cases that you see very bad, nearly moribund, when the woman is bled out, and looks almost like a hopeless case; open the abdomen with a rapid operation, raise up the abdominal walls, and if it is possible, pick out the fetus with forceps, and immediately close the abdomen, leaving all that blood in the peritoneal cavity. That blood is sterile, and within a very short time it will all be absorbed, and it will surprise you how rapidly that case will improve. The first time I heard of anything of that kind, I was in Albany at the City Hospital, a case was brought in to Dr. Sampson, and he managed it in that way. And I said to him, "Don't you think it is worth while, doc-

tor, to even clean out the peritoneal cavity?'' ''Why,'' he says, ''we wouldn't clean that out for anything,'' he says, ''that blood is just what we need, and it is worth more than all the other measures we could possibly use.'' I inquired about that case afterward, and I found that the woman made an uninterrupted recovery, and since that time I have known of two or three other cases managed in the same way.

Dr. Miner.—I would just like to make two or three comments on this very valuable paper. It seems to me that everyone of us gentlemen should be qualified, perfectly qualified to detect hemorrhage. It seems to me that a concealed hemorrhage in these cases and the symptoms of it should be the key-note. It makes no difference whether the lady is married or unmarried, she may have a tubal rupture, and tubal pregnancy. My first case occurred in just that kind of condition, an unmarried woman with all the symptoms of a tubal rupture, which was borne out by an operation. My first case, I wasn't keen on the diagnosis, and the counsel wasn't keen, and when we had the second consultation, it was too late, and the unfortunate woman died before morning, before light. The third case, I was in consultation. It was not an operative case. However, she recovered without an operation, she would not give consent, the hemorrhage ceased in time, and she got well, and bearing out Dr. Bartlett's remarks in regard to saving the blood, I remember distinctly seeing Dr. Robert T. Morris operate in New York, and he laid great stress on the fact that the blood should be saved, the hemorrhage should be stopped by ligation, but the blood should be saved, and he also laid great stress, as President Ross has done, on being prepared for intravenous injection, in fact, doing this in the process of the operation. I think this is a very valuable paper, and I think it merits thorough discussion.

Dr. Ross.—In the limits of my paper, I could only speak very hastily and somewhat imperfectly of conditions. I think as far as the saving of blood is concerned, it depends altogether upon the condition of the patient at the time of the operation. If the patient is almost in collapse, we have no time to clean out the abdomen anyway. If she has not bled very much, that is, if she has not bled to the point of exhaustion, I feel that while the blood is there and remains sterile, it is an aid to her. If you are perfectly sure of your technic, and are sure you have not infected it, why leave it, but if you are in any doubt of your technic, I think it had better be removed. We all know that saline solution takes the place of blood very well, and if you can keep the heart going, the blood will be supplied all right, and that would be the only question that would arise in my mind as to the value of saving the blood in the peritoneal cavity. That blood would be reabsorbed, and it will be all right if it remains sterile. If your technic is perfect enough for that, all well and good to leave it and, in many cases, severe cases, your whole purpose is to get in and stop the hemorrhage and get out again as quickly as you can, close up the abdomen without any attempt to remove blood or anything else, stop your hemorrhage, and then go on with your other measures to keep the woman in good condition.

PERNICIOUS ANEMIA

R. D. McCLURE, Baltimore (*Journal A. M. A.*, Sept. 9, 1916), after reviewing the record of transfusion briefly, says that attention was first drawn to the great value of repeated transfusions in the service of Dr. L. F. Barker at Johns Hopkins Hospital by the results in a series of cases of benzol poisoning, in which the symptoms were a severe anemia and purpura. The families produced the donors so that the danger of unsuitable blood was avoided. Several of the cases of pernicious anemia in which the method was tried are reported, and the results of the transfusions in these cases are tabulated. Only six of the patients had been splenectomized. There were no deaths as yet to be reported. The results were so encouraging that they feel that the life of a patient with pernicious anemia may be indefinitely prolonged if the spleen is removed as soon as the patient is in condition to stand the operation and repeated transfusions follow. In some cases they have had to transfuse several times before splenectomy. After the spleen was removed, if there is not a rapid improvement in the blood picture, they would advocate transfusion until the hemoglobin is as high as 90 per cent, or more, never allowing it to fall below 75 per cent.

MINUTES OF THE ONE HUNDRED THIRD ANNUAL MEETING OF THE VERMONT STATE MEDICAL SOCIETY.

Held at St. Johnsbury, October 12 *and* 13, 1916.

THURSDAY FORENOON

1. Call to order by President, Edward Harlan Ross.

2. Prayer, Rev. Paul D. Moody.

Almighty and most merciful God:—At the opening of this meeting, we turn our faces toward Thee, conscious that save as Thou dost bless us, all gatherings of men are in vain, for except the Lord bless the house, they labor in vain who built it. We pray that Thou wilt pour out Thy spirit upon these Thy Servants who minister to our physical needs, and grant that as they go about among us, they may also, consciously or unconsciously, minister to the souls of men; that as they pass through the multitude of doors open to them in Thy service, they may at all times bring with them light and peace. Bless this gathering together, we pray Thee, let Thy Spirit inspire and preside over all things. We thank Thee that Thou art a God who gives to men understanding, we thank Thee that Thou hast ordered things as they are in this world, and we humbly pray that we may grow in unstanding of the wonders of Thy creation and in Thy service. Bless this gathering together now at this time, and keep from all things which are harmful, and grant that in all these deliberations, our thoughts and minds may be constantly turning toward Thee, the Giver and Sustainer of life. We ask this in the name of Jesus Christ our Lord and Saviour, AMEN.

3. Address of Welcome, Hon. Alexander Dunnett.

Mr. President, Gentlemen of the Association:

A few days ago one of our genial doctors in town called at my office, and he had in his hand a clipping from one of our current magazines, and he said he wished me to welcome the medical fraternity who attend our State Convention. He read this clipping, which was in substance as follows: "We are about to publish a short story, which will be slightly over the heads of our readers." "Now," he said, "I hate that kind of a thing, either in story or in a speech." He said, "I thought of asking one of our doctors to give this welcome, and I thought of asking one of our ministers, but I was afraid it might be over our heads, and if I have you pronounce the welcome, there will be no danger of anything of that kind." So it is left for me, I suppose, to tender you the keys of the town.

We honor the medical profession. We appreciate the fact that you are the men who get up nights to fix us up when we are sick, or when we think we are. We appreciate the work of your profession in the interest of science. We know that there are martyrs, martyrs of different kinds, martyrs to country, martyrs for religion, but we take off our hats and stand uncovered at the mention of the men of your profession who, for instance, took the deadly virus of yellow fever, and walked deliberately down to death, in the interest of medical knowledge and for the benefit of public health.

I was a member — was the president of our State Bar Association a short time ago. My greatest effort as president of that Bar Association was to create more cordial and closer relations between the Bench and the Bar, and I am happy to say that in my more than fifty years of observation of the medical profession, I have seen great progress in that direction in this profession. This association is an evidence of it. No such thing existed at my first recollection, and the general relations between the practitioners of the medical profession were very different then from what they are now. This association will make you all grow. If each member of the profession could have all the knowledge of every other member of his profession, what doctors we would have! This is impossible of attainment, but you can approximate it, you are approximating it very largely. The great body of medical knowledge is now common to all members of the profession.

Doctors are a great force in the community, they are a great force in politics, when they try to have anything to do with politics. I remember a conversation with old Dr. Carpenter of Burlington not so very long before his death. He said he was a candidate for representative of the City of Burlington, and he said that after he was nominated, he was informed there was a certain class of people, perhaps the lower and poorer class of people, that weren't going to vote for him, and that he was going to be defeated. The doctor said, "I told him I would take care of them." Says he, "I had doctored about all those people, and they owed me bills, and I sat down and sent every one of them a bill, and told them I expected to go to Montpelier to represent the city, and I should want some money and would like to have them pay, and that I would be at the City Hall on election day to receive the money." Said he, "I went there and stayed all day, and never collected a cent, and was elected by a large majority." Now, if a man could have the medical profession back of him politically, he would be in the most elegant position to enter politics.

I need say nothing further perhaps than to extend to you the keys of the city. We welcome you for what you are, we welcome you more heartily for what you are trying to become. Our hotels, our public houses, our mercantile houses, our places of amusement, are at your disposal, gentlemen. We have no public baths, nor public bars, but our sideboards, especially those of the members of your profession, will be open in all cases of distress. Again I welcome you.

4. Reading of Records, Secretary.

It was voted that the reading be passed over, as the records had been printed in VERMONT MEDICINE.

5. Report of Committee of Arrangements, F. E. Farmer.

Attention was called to some exhibits in the downstairs room which were not listed in the back of the program, viz.; the Pulmotor, and also Intravenous products.

Announcement was made of a reception to the ladies at Underclyffe, the home of Mrs. Frank H. Brooks, at three o'clock in the afternoon, at which there would be a musical and literary program, and refreshments served. It was also announced that on Friday morning, at 9:30 o'clock, automobiles furnished by the Commercial Club would leave the St. Johnsbury and Avenue Houses to take the ladies for a thirty

mile automobile ride, visiting the Vail farm at Lyndon, which is now the property of the State of Vermont, for use as an Agricultural School Experiment Station, and also visiting Burklyn Hall, the residence of Mr. E. A. Darling.

It was stated that owing to the non-completion of the new dining-room in the St. Johnsbury House, it had become necessary to change the place of the banquet in the evening to the Avenue House.

It was explained that during the address to be given in the afternoon by Dr. John R. Williams of Rochester, he would show some stereopticon views, and it was therefore voted to hold the afternoon session in the Colonial Theatre.

6. Reports of Officers, Committees and Delegates:

(a) Secretary, J. M. Hamilton.

It was voted that the report be referred to the House of Delegates.

(b) Treasurer, C. F. Dalton.

It was voted that the treasurer's report be referred to the House of Delegates.

(c) Auditor, W. F. Hazelton.

The Auditor reported that all books and accounts were in order, which was referred to the House of Delegates by vote of the Association.

(d) Executive Committee, and
(e) Publication Committee,
Secretary.

Voted that this report be referred to the House of Delegates.

(f) Legislative Committee,
F. W. Sears.

No report.

(g) Necrology Committee,
F. T. Kidder.

In the absence of Dr. Kidder, this report was read by the Secretary.

(h) Medical Education Committee,
F. E. Clark.

No report.

(i) Medico-Legal Committee,
J. N. Jenne.

It was stated that Dr. Jenne had prepared a report, and in his absence, this report was passed over for the time being.

(j) Health and Public Instruction Committee, G. G. Marshall.

In the absence of Dr. Marshall, this report was read by the Secretary, and was voted accepted.

The following resolution was read by the Secretary which had been sent in by Dr. Marshall:

RESOLVED: That the Vermont State Medical Society, now in session at St. Johnsbury, does hereby endorse the action of the State Board of Health in its educational work, that alcohol, used as a beverage, lowers the resistance of the individual against disease, especially tuberculosis.

VOTED that this resolution be adopted.

(k) Councillors from the four Districts.

No reports.

(l) Delegates to other Societies.

No reports.

7. Introduction of Delegates from other Societies.

(President Ross) New Hampshire has delegated to us Dr. John E. Toye of Charleston, and Dr. O. C. Young of Charleston.

(Neither delegate responded.)

Massachusetts has delegated Dr. Arthur D. Bush, Dr. I. J. Clark, and Dr. Franklin C. Downing.

(Dr. Downing)—*Mr. President and Gentlemen:*

Sorry I am the only representative from Massachusetts. I fear we are rather poorly represented. However, I am very glad to be here and present to you the kindly fraternal greetings of the sister state of Massachusetts. I don't suppose I have anything to offer, I came more to learn than to give you information.

(President Ross).

A pleasure to have you here, doctor, and we hope you will take part in the discussions of the various papers and make yourself at home. Massachusetts has also delegated Dr. Norman P. Wood of Northfield.

(Dr. Wood)—*Mr. President, and Members of the Vermont State Medical Society:*

It certainly gives me great pleasure to be here today, for a number of reasons. First, in motoring from Northfield to St. Johnsbury, coming to Woodsville yesterday, was a pleasure which can hardly be described, but certainly was appreciated. The beauty of the landscape was something that can never be forgotten. I doubt if at this time of year a panorama of such brilliancy and such grandeur as I witnessed yesterday is often repeated, because it came from Nature, by the help of Frost. Besides that, the beauty of the landscape alone is worth the journey. I have traveled in some of the states of this country where there were plenty of boosters, as they call them, and they bragged of their beautiful scenery. I have visited the Grand Canyon of Colorado, and while I stood in awe at the sublime grandeur of that scene, for simple rustic beauty that makes a man glad that he lives in New England, it is not a comparison to what we see today in motoring to St. Johnsbury.

I feel as though I had come into my own, for this reason, I was born in Vermont, and I received one of my medical diplomas from the Vermont State University. I was a member of the Vermont State Medical Society, and unless I have been expelled for non-payment of dues, I am a member still. I believe I have been told by your Board of Registration that I am still eligible to practice in Vermont, because I registered in Windham County some thirty odd years ago, and was then a lawful practitioner in the State of Vermont. So that gives me a pleasure to be here.

Besides that, I have read with something of pride in the last few months of some rules enunciated by your State Board of Health for the control of that dread disease which has afflicted so many portions of the Union, and which rules, while they originated in Vermont, have been adoped as rules by the State board of medicine in thirty-eight states of the Union, and that is a source of pride, because I am a Vermonter.

Besides that—I don't know but I am speaking too long, I notice on your bill of fare here that no man will be allowed to speak more than five minutes—besides that, it is a considerable source of pride that you have called upon the eminent men from Massachusetts to assist you, and two of them who have been here are my personal friends, Dr. Robert Lovett, and Dr. Wellesley, so it is with something of pride that I represent a state who is called upon to assist, not only

Vermont, but other states in the Union in combating that awful disease of which we know nothing, practically, and which we dread so much when it comes into our community. I am very happy to say that we haven't had a single case in the town of Northfield.

Besides that, if I may be allowed a word further, it is something of a source of pride to be here this morning and listen to your chaplain, who is a native of the town which I represent, Rev. Paul Moody, and whose family has been—not only his own but his father's family—has been in my care for the last twenty-seven years, and for all these things, it gives me great pleasure to be here as a representative of that splendid organization known as the Massachusetts State Medical Society.

(No delegates from other states were present.)

8. Paper: "What shall we feed the Sick "

Clinton J. Rumrill, Randolph.

9. Paper: "Fractures of the Lower End of the Humerus."

John Brooks Wheeler, Burlington.

(Secretary)—*Mr. Speaker*:

Before we adjourn, I have a communication here from W. J. Van Patten, the President of the Vermont State Conference of Charities and Corrections, regarding some work they want the Vermont State Medical Society to do, and I would respectfully ask that this be referred to the House of Delegates without action, because of the lateness of the hour. It was so voted.

THURSDAY AFTERNOON, TWO O'CLOCK AT THE COURT HOUSE

1. Vice-President's Address: "Simple Dressings for Simple Fractures,"

Clayton Witters Bartlett.

(Dr. Blodgett)—*Mr. President*:

If it is proper to do this now, I move that this society elect as honorary members Dr. William Seaman Bainbridge, of New York, and Dr. Robert W. Lovett, of Boston, both of whom are men who have done a good deal for the physicians of Vermont. These are the elections for last year.—It was so voted.

2. Oration in Medicine: "Diabetes Mellitus."

John R. Williams,
Rochester, N. Y.

Owing to the non-arrival of Dr. Williams, this paper was postponed until Friday afternoon.

3. Paper: "Estuaries. The Importance of their careful Exploration and resultant Discoveries."

George Riley Anderson,
Brattleboro.

4. Paper: "Tardy Pains of the Stomach."

Alberic Hyacinthe Bellerose,
Rutland.

(A message from Dr. Bellerose, stating his inability to be present and presenting his excuses, was read.) This paper was read by title only.

5. Paper: "Opportunity and Medical Research."

John Smith Horner,
West Pawlet.

6. President's Annual Address: "Pelvic Pain."

Edward Harlan Ross,
St. Johnsbury,

Report of Legislative Committee.

Dr. Sears reported that there had been nothing turned over to the Legislative Committee to report, and they had no particular suggestions to make.

FRIDAY MORNING, 9.00 A. M.

A surgical clinic was conducted by Ellsworth Eliot, Jr., Surgeon of the Presbyterian Hospital, New York City. Subject: "Certain Features of the Symptoms and Treatment of Gall Stones."

10.30 O'CLOCK

A medical clinic was conducted by John R. Williams of Rochester, N. Y. Subject: Diabetes Mellitus.

FRI. AFTERNOON, 1.30 O'CLOCK, AT THE COLONIAL THEATRE

1. The report of the House of Delegates, was read by Dr. Stone as follows:

REPORT OF THE HOUSE OF DELEGATES

The House of Delegates assembled at the court room at 5 p. m. Oct. 12 with the vice-president, Dr. P. E. McSweeney in the chair. The secretary being absent Dr. B. H. Stone was elected secretary pro tem.

Sixteen delegates responded to the roll call. In view of the fact that the secretary's record was printed and in the hands of the delegates its reading was dispensed with and the other business of the House was immediately taken up in order.

The matter of continuing the postgraduate courses inaugurated last year was discussed and it was voted that the courses be continued under the direction of the secretary and councillors as before.

On explanation of Dr. Hamilton it was voted that certain members of the Orleans County society which has been practically defunct become full members of the Society from Sept. 1st, 1916 on payment of one-half the annual dues. One emeritus member (Dr. J. F. Wright) from this society was also voted into full membership.

The treasurer's report was considered accepted and adopted. The matter of requiring bonds from both secretary and treasurer was considered and it was voted that bonds satisfactory to the president of the society be filed by both of these officers.

The report of the publication committee was accepted and it was voted that the unexpended balance remaining from the sum appropriated by the council for the use of the publication committee be returned to the general fund. The matter of continuing the issuance of Vermont Medicine was then considered and it was voted that the publication committee be instructed to continue the journal and that a sum equivalent to one dollar ($1.00) for each member of the society be appropriated from the general fund to meet the expenses of this publication. It was voted that the publication committee be authorized to elect a business manager and an editor either from their own numbers or from members of the Vermont State Medical Society and fix their duties in the management of Vermont Medicine and their

salaries not to exceed two hundred dollars ($200.) for both to be taken from the sum appropriated for the use of the publication committee.

It was voted in response to invitation to hold the next meeting at Barre.

Amendments to Article III and Article V of the constitution proposed at the last annual meeting were then adopted by vote.

To amend Art. III so as to read as follows:

The officers of this society shall be a President, Vice-President, Secretary, Treasurer, Auditor, a Council, which shall consist of the president, secretary and treasurer of this society, and of four councillors elected from four districts as follows: 1st District to consist of Grand Isle, Franklin, Chittenden and Addison Counties; 2nd District, Rutland, Bennington and Windham Counties; 3rd District, Orleans, Orange, Essex and Caledonia Counties; 4th District, Lamoille, Washington and Windsor Counties.

The councillors from the First and Third District shall be elected in odd years to serve two years and those from the Second and Fourth Districts shall be elected in even years to serve two years; a Publication Committee of three members of which the secretary shall be chairman; Executive Committee of which the secretary shall be one, *ex officio;* a Committee of Necrology of three members; Committee of Legislation of three members; Committee of Health and Public Instruction of five members—all of whom except the council shall be elected annually and shall hold their respective offices until the close of the next annual meeting and until their successors are elected.

Also to amend Art. V so as to read as follows:

The active membership of this society shall consist of the active members of the affiliating County Societies, whose dues to the State Society are paid in accordance with the by-laws of this Society.

It was then voted to repeal such portions of the by-laws as are covered by or rendered inconsistent with the newly adopted articles of the constitution.

A letter from Mr. W. J. Van Patten of Burlington representing the Vermont State Conference of Charities and Corrections was then read and a vote taken to instruct the secretary to give such assistance to the Conference by way of supplying the desired information regarding defective children as possible.

On presentation by Dr. F. E. Clark of the Red Cross project to establish a base hospital in this state it was voted by the House after discussion to indorse the project and promise the assistance of the society in the enrollment of physicians and nurses for the purpose.

It was voted by the house after discussion to recommend that the society pay to the publication committee one hundred and fifty dollars ($150.) for their services during the past year.

It was voted that the nominations for officers of the society during ensuing year with exception of the office of president be referred to a committee of three appointed by the chair to report at eight o'clock Friday morning. The chair appointed Dr. Stevenson of Chester, Dr. Stone of Burlington and Dr. Miner of Bellows Falls.

Nominations for president were then called for. The name of Dr. C. H. Beecher was presented and duly second-

ed. There being no other nominations the vote was put and Dr. Beecher was unanimously elected to the office of president for the ensuing year.

The meeting then adjourned until 8 a. m. Friday morning.

FRIDAY OCT. 13th 8 A. M.

Adjourned Meeting

The House was called to order by the Vice-President, Dr. McSweeney.

The report of the nominating committee was called for and read by the chairman Dr. Stevenson as follows: Dr. C. W. Howard, Shoreham, Vice-president; Dr. W. G. Ricker, St. Johnsbury, secretary; Dr. E. H. Martin, Middlebury, treasurer; Dr. A. L. Patch, Windsor, auditor; Dr. S. W. Hammond, Rutland, councillor for 2nd district; Dr. C. J. Rumrill, Randolph, councillor for 4th district; Dr. O. G. Stickney, Barre, Dr. C. S. Leach, Hyde Park, executive committee; Dr. A. S. M. Chisholm, Bennington, Dr. E. H. Martin, Middlebury, publication committee; Dr. F. W. Sears, Burlington, Dr. W. N. Bryant, Ludlow, Dr. H. H. Swift, Pittsford, legislative committee; Dr. F. E. Clark, Burlington, medical education; Dr. E. D. Ellis, Dr. J. D. Hanrahan, Rutland, Dr. M. H. Eddy, Middlebury, necrology committee; Dr. E. A. Hyatt, St. Albans, medico-legal committee; Dr. C. F. Dalton, Burlington, Dr. Grace Sherwood, St. Albans, Dr. J. J. Derven, Poultney, Dr. J. A. Stevenson, Chester, Dr. Charlotte Fairbanks, St. Johnsbury, committee of health and public instruction; Dr. A. L. Miner, Bellows Falls, delegate to Connecticut Valley Medical Association; Dr. T. R. Stiles, St. Johnsbury, Maine Medical Society; Dr. D. S. Drake, White River Junct. New Hampshire Medical Society; Dr. F. L. Osgood, Saxtons River, Massachusetts Medical Society; Dr. C. W. Howard, Shoreham, Connecticut Medical Society; Dr. G. R. Anderson, Brattleboro, Rhode Island Medical Society; J. A. Stevenson, New York Medical Society; J. H. Blodgett, Anniversary Chairman; W. S. Nay and W. L. Havens, nominees for board of medical examiners; F. T. Kidder, alternate to delegate to American Medical Association. A unanimous ballot was cast for these names.

The house then elected its own officers as follows: P. E. McSweeney, president; F. T. Kidder, vice-president; W. E. Lazelle, 2nd vice-president; F. E. Steele, secretary.

It was voted that the library belonging to the society be properly stamped to designate ownership and turned over to form a part of the medical library of the College of Medicine of the University of Vermont, and a committee composed of F. E. Clark and B. H. Stone was appointed by the chair to see that this is done.

Dr. Lazelle of Barre expressed his appreciation of the manner in which the society through its medical-legal committee and council had assisted him in a recent mal-practice case since dropped.

The House of Delegates voted to make the suggestion to the executive committee that the banquet in the future be held earlier in the evening, and that the public address be placed at some other hour.

Adjourned at 9 a. m.

Respectfully submitted,

B. H. STONE,

Secretary pro tem.

2. Oration in Medicine.

"Diabetes Mellitus," "Our present conception of the disease and its treatment."

John R. Williams,
Rochester, N. Y.

(Secretary Hamilton).

I would like to make a proposition to the society. We have a rule to elect each year two honorary members to our society. I propose to you for this year Dr. Ellsworth Eliot of New York, and Dr. John R. Williams, of Rochester. (Motion seconded, so voted).

3. Oration in Surgery.

"A consideration of certain unusual clinical features of Cholecystitis and its Surgical Treatment."

Ellsworth Eliot, Jr., New York.

Adjourned.

JAS. M. HAMILTON,
Secretary.

ABSTRACT OF PAPER ENTITLED, FURTHER OBSERVATION ON PRURITUS ANI, ITS ETIOLOGY AND TREATMENT

(*A sixth report based on results of original research.*)

Dr. Dwight H. Murray, of Syracuse, N. Y., read the sixth annual report of his original research work on Pruritus Ani and Vulvae adding reports of 25 cases to the former series of cases, making 123, the bacteriology of which shows 95% of the cases a streptococcic infection as the etiology for these troublesome conditions. He stated that his claim, that the streptococcus fecalis is the etiology of Pruritus Ani, is now confirmed by many leading physicians, throughout the United States, who have been investigating the subject.

He finds from the experience of this past year that far better results are obtained by the use of autogenous vaccines with more than 1,000 million dead germs to 1 C. C.

He states that not one of the cases of Pruritus of the Anus, of the Vulva or of the Scrotum in the 123 cases has had diabetes and, as a result of this, he questions very strongly whether diabetes is ever the cause of these conditions, unless as a complication, and under such conditions there would be a general pruritic condition of the skin.

Last year, in his fifth report, he described cases of Pruritus Ani that did not show improvement under the administration of the autogenous streptococcic vaccine. These cases were later found to have a staphyhococcic infection as a complication and when an autogenous staphylococcus vaccine was administered with the autogenous streptococcic vaccine, improvement resulted. He has found proof of this same condition during the past year and believes that these cases show a characteristic whitish appearance of the skin in spots, particularly around deep skin fissures.

He also found further proof of one of the conclusions in a former paper, i. e., where there is a rectal pathology with Pruritus Ani, plus a skin infection, that an operation for relief of these conditions will cure the rectal pathology, but will not cure the Pruritus Ani. If the streptococcic skin infection does not exist, the operation will be very sure to cure Pruritus Ani.

During the six years that Dr. Murray has been doing this work he has never had as prompt and satisfactory results from treatment as during the past year. In his report of the present condition of patients treated during the past five years, he shows that practically all of the patients have retained a part of the benefit originally received and a large majority of them consider themselves cured. Time will give the proof of this.

While some of the cases still have a little itching from time to time, they state that it is very easily controlled by simple methods.

Dr. Murray is more firmly convinced than ever that operations for the cure of Pruritus Ani, such as Ball's operation and modifications of it, are absolutely contradicted and should never be performed.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.
WILLIAM GRAY RICKER, St. Johnsbury, Secretary.
A. STUART M. CHISHOLM, Bennington, Editor.
EDWARD HOMER MARTIN, Middlebury, Treasurer.

JAMES MADISON HAMILTON, Rutland, Acting Business Manager.

All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.
The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., October, 1916.

Editorials

THE ABUSE OF ALCOHOL

Philosophers have always believed and often affirmed that the most profitable and the wisest system of government was a benevolent despotism, and never perhaps has the truth of that dictum received more obvious confirmation than in the enforced prohibition which now prevails in Russia. For many years, since Neil Dow first began his propaganda for the prohibition of the sale of intoxicating liquors in Maine sixty years ago, there has been a persistent effort to regulate or prevent the use of whiskey as a beverage in the United States. We all know something of the details of that movement for public instruction, we have seen some of the lamentable side-results of a local prohibitory law whose effect was to increase drunkenness and the violation alike of the statutory and the moral law; and we know that while prohibition has been proclaimed and partially enforced in eighteen states of the Union, the consumption of whiskey per capita of the population has tremendously increased during the past decade. No more impressive argument for prohibition has ever appeared than is conveyed in comparing the Russian army during the Russo-Japanese war with the Russian army of today, and this confirmation of the expediency of prohibition is one of the great benefits that the European war will bring to mankind.

No country whose government is obliged to rely on the support of public opinion can possibly cover so much ground at a single stride. Aside from the convictions of its individual members, the British parliament bows in abject but seemingly necessary servility before the alcoholic voice of the public-house frequenters and the no less imperious demands of the brewery and distillery interests. Even the Church of England dares not confront these antagonists, and its hierarchy " does not consider the present occasion opportune to recommend the introduction of so questionable an innovation" as enforced prohibition. In Chelmsford a local effort to regulate the sale of whiskey by restricting the hours of public sale of intoxicants brought out an energetic protest from the local Rector, who writes:

"We resent this interference with the popular convenience, and we do not hesitate to tell our magistrates that in acting as they have done they have not considered the rights and liberties of the people. Nor is their decision likely to lead to an increase of sobriety. There has been a most satisfactory advance of the cause of temperance of late years in this place, but it has not been caused by the edicts of magistrates or the fads of teetotalers. It is the result of steady progress in the habits of the people towards a better condition of things which have been brought about by a variety of causes beyond the reach and control of legislative maniacs or fanatical justices. From all points of view we deplore the result of the recent Chelmsford decision, and we have no hesitation in saying that it is by no means in the best interests of our town."

If the "best interests of our town" were to be injured by the reduction of the open-bar period from eighteen hours to twelve, why would it not be reasonablt to infer that these "best interests" would be proportionally benefited by its extension from eighteen hours to twenty-four? The next step upward toward perfection would be of course free liquor furnished by the government on the principle of the old age pensions. The trouble with a democracy is that such persons as this rector actually have some political influence, and if numerous they may degrade legislation to the level of their own moral incapacity as in fact seems to be the case in England.

Here at home we find the same handicap, of which it is unnecessary to go into the details which are familiar to everybody. But while autocratic action is impossible, while legislation is timid and public opinion undetermined, many people among us have long seen clearly the necessity of reform and an increasing number of individuals have sought the aid of institutions which, with varying results, advertise their success in curing the liquor habit. These institutions have unquestionably been of benefit in many cases. This we must concede without attempting here to explain the psychological processes which underlie their success. Notably, the Charles B. Towns method seems to have done much good, and has earned the good will and support of many able and some eminent men.

More recently, Doctor T. D. Crothers, of the Walnut Lodge Hospital at Hartford, Conn., has established, or at least inaugurated, a department for Scientific Research into the psychology and etiology of the "drink and drug neuroses." This is not at all the same purpose that moved the Nutrition Laboratory of the Carnegie Institution in Boston to prosecute its own researches, the results of which were partially contained in the *Science* article of June 30, 1916. The work of the Hartford institution has a moral as well as a scientific value, and we know no member of the Medical profession in this country better qualified for this particular phase of the work than Doctor Crothers, whose circular we publish elsewhere in this issue.

Everyone recognizes the toxic action of alcohol in large doses. Recent experiments by many observers have familiarized us with its dulling effect upon the special senses even in small doses in persons who are not habituated to its effects. But we nevertheless believe that alcohol has a valuable place in medicine. It is its abuse, which in-

cludes its use as a beverage, which we recognize as pernicious. In the debility of age, in the exhaustion attending and following acute inflammatory diseases, in diphtheria, in all diseases where we wish to retard injurious tissue waste, we acknowledge its value; but we are inflexibly opposed to its use under any other conditions than these and similar cases where it is used, as Morphia and Cocaine should be used, under the complete control of the attending physician. We shall be glad to have some wiser Harrison Law enacted which may confine the use of alcohol within proper limits as the other narcotic and habit forming drugs are now confined, and despite our respect for Doctor Crothers' skill and purpose, we are of the opinion that such forcible legal restriction will have better practical results than scientific research into its psychology and etiology. Still, in the meantime, we welcome the work that he has taken in hand and wish him all success, avowing our cordial sympathy with any movement that tends in any degree to diminish drunkenness and with it all the train of evils that follow in its wake.

A NEW NATIONAL MEDICAL SOCIETY

St. Louis, the home of Antikamnia, Bromidia, Chionia, Cactina Pellets, Prunoids, Seng and other drug combinations of similar excellence and equal virtue, has become sponsor for a new national medical association to be known as the Medical Society of the United States. It is to be composed of physicians who are "wholly opposed to the autocratic methods" of the American Medical Association, and its principal purpose is avowed to be "The correction of certain abuses which are alleged to have grown up under the present management of the A. M. A." This seems trivial and childish. Spleen affords a slender foundation for such an ambitious undertaking. Nor is there any enumeration in the prospectus of these "certain alleged abuses" which on the contrary seem quite uncertain. The officers are Dr. Ohmann-Dumesnil, President; Dr. George H. Thompson, Secretary; and Dr. Emory Lanphear, Treasurer, all of St. Louis. It seems probable that Dr. F. F. Friedmann of Berlin and Dr. Frederick Cook of the North Pole will be appointed as representatives of the new society in their respective places of residence. May it have the fortune it deserves!

APROPOS

In an article in the *Geographical Review* for September, on the "Water Barriers of New York City," the author, Doctor Ellsworth Huntington, says in closing:—

"Today we are in our hour of greatness. What will happen to us tomorrow? Suppose that luxury, vice, self-seeking, disregard for high ideals, and all the other evils of a decadent nation come upon us. The seeds are here. The only way that we can permanently retain the mastery of nature is by building up human character. Formerly men thought that religion, education, and training were the chief means to this end. In recent generations we have learned that proper food, clothing and houses, abundant fresh air, and freedom from disease also play a highly important rôle in the process. Today we are at last coming to a realization that only by weeding out the weak-bodied, weak-willed parts of the community through some form of eugenic selection, and by seeing that people are adjusted to their physical environment, can we provide proper human material for the great tasks of civilization. We can scarcely avoid the conclusion that the

building up of character is as much the work of the scientist as of the preacher, teacher, or philanthropist. Our dependence upon nature, as is shown by the water barriers of New York, is increased by leaps and bounds. In spite of the constantly growing price that he must pay, man is still master. His mastery, however, depends upon the preservation of his energy, vigilance, industry, inventiveness, honesty, and other high traits of character. Our constantly growing dependence upon nature makes it more necessary than ever before that science should play its part in preserving those traits which alone can render man permanently victorious over his geographical environment.''

THE TRANSMISSION OF INFANTILE PARALYSIS

That the progress of this disease has not conformed to the ordinary rules of contact-infection has been long apparent to those who have studied it at all closely, and the hypothesis of intermediate transmission, suggested by the known method of transmission in malaria and yellow fever, has been often suggested, and the intermediate host has been by different observers thought to be the cat or the mosquito or the stable-fly. In the Boston Medical and Surgical Journal of September 21st, Doctor M. W. Richardson, of Boston, for several years the Secretary of the Massachusetts State Board of Health says:—''I have never been seriously moved from my opinion that infantile paralysis is not transferred from person to person by direct or indirect contact, but that, in some manner, insects play an important rôle in the epidemiology of the disease.'' Transmission by direct contact he considers improbable for the reason that single cases occurring in schools and hospitals for children do not set up epidemics among the other children; that the disease comes on usually in the summer months when children are less crowded together than in winter; that the disease has always been far more prevalent in country districts than in cities, in proportion to population; that single cases in large families of children are often observed; and that the character of the virus resembles much more closely that of the intermediate-host than that of the personal-contact infections.

These points seem, on the whole, well taken, and while withholding our full assent to Doctor Richardson's hypothesis that the rat or the rat-flea is the intermediate host, we hope that his conjecture may result in the complete extirpation of that noxious and disgusting rodent whose character we are glad to see assailed even unjustly.

BURLINGTON AND CHITTENDEN CLINICAL SOCIETIES

Nineteen members of the Chittenden County Medical Society met at the annual meeting held at the College of Medicine in Burlington, September 28th. Dr. J. N. Jenne, the retiring president, read his address and following the meeting a luncheon was served. The following officers were elected for the year ensuing: President, Dr. E. H. Buttles; vice-president, Dr. F. W. Sears; secretary-treasurer, Dr. O. N. Eastman; members of the executive committee, Drs. E. T. Brown, F. K. Jackson and G. M. Sabin; delegates to the State convention for two years, Drs. J. A. Archambault and David Marvin of Essex Junction, F. J. Arnold of Burlington and A. L. Bingham of Williston; alternates, Drs. H. A. Ladd, C. K. Johnson, R. L. Maynard and G. O. Contu.

Report of the Secretary

Rutland, Vt., October 6, 1916.

To the Members of the Vermont State Medical Society:—

I beg leave to present my third annual report as Secretary. My last report showed a membership of 396. Twelve members of last year have removed from the state, which is much in excess of the usual number.

The accompanying table shows the exact changes that have occurred in the component county societies in the last twelve months.

	Paid 1915	Died	Resigned or Removed	Dropped for N. P. D.	New or Reinstated	Members in Good Standing
Addison	27	0	0	0	0	27
Bennington	19	0	0	0	1	20
Caledonia	36	0	4	1	1	32
Chittenden	71	1	3	0	3	69
Franklin	41	0	2	3	2	38
Lamoille	12	0	0	0	0	12
Orleans	16	0	0	2	5	19
Rutland	63	1	1	0	4	65
Washington	54	1	3	0	6	57
Windham	35	0	0	2	2	35
Windsor	22	0	1	0	6	27
Total	396	3	14	8	30	401

The total membership is now 401, an increase of 5 over last year and of 97 over the number reported at the time I became Secretary 3 years ago. This growth has been a normal and healthy one. There is no name included that has not paid dues except those that might be called "members emeriti" who are exempted from further payment by virtue of having reached the age limit.

Of this class of members there are 18.

The present membership should be increased in the next year or so. There are many good men in every county that would raise the standards of the Society by their membership.

In accordance with the vote of the House of Delegates last year, post-graduate courses were held in the various county societies that requested them. These meetings were as a rule very satisfactory. A report of them was made in the August number of VERMONT MEDICINE. Dr. Dalton will give as the cost of these meetings about $138.82, but the expense of arranging them is included in the item "Secretary's Account." After observing the workings of the plan followed the last year, I am inclined to think that better results might have been obtained, had we arranged for some outside man to come here and give 4 days to the work, one day in each District, and then in about a month another man and so on for about 4 or 5 series. The Secretary could arrange to have these meetings held with such County Societies as the Councillor for the district might advise.

Young men may be secured from the medical centers that can bring something of interest to us.

I would again call to your attention the books that belong to this society. Some definite arrangement should be made to preserve these volumes and cat-

alogue them and make them accessible to members.

During the time I have served you as Secretary the Society has prospered because of your uniform co-operation and I bespeak the same loyalty to my successor, and take this opportunity to thank you for the consideration that has made the work a very great pleasure to me. I must absolutely decline a re-election as I cannot devote the great amount of time to this Society that its work now requires.

Respectfully submitted,
JAS. M. HAMILTON,
Secretary.

Report of the Treasurer

RECEIPTS

Balance on hand, October, 1915		$3,230 77
Received from Addison County	$88 00	
Received from Bennington County	80 00	
Received from Caledonia County	120 00	
Received from Chittenden County	276 00	
Received from Franklin County	140 00	
Received from Lamoille County	48 00	
Received from Orleans County	62 00	
Received from Rutland County	240 00	
Received from Washington County	228 00	
Received from Windham County	136 00	
Received from Windsor County	98 00	
Total from County Societies		$1,516 00
Received from Geo. C. Averill Trust Fund Int.		65 00
Received from Burlington local Com. bal. 1915		21 79
Received from Rebate on Hubbard Bill		4 35
Received from "Vermont Medicine"		746 94
Received from Interest on Savings Bank Deposits		89 04
Total Receipts		$5,673 89

EXPENDITURES

Expense of 1915 Meeting

Paid Dr. S. E. Jelliffe, expenses	$25 00	
Paid Dr. R. W. Lovett, expenses	15 84	
Paid Dr. W. B. Cannon, expenses	18 25	
Paid Dr. W. C. Gorgas, Trust Fund Int.	65 00	
Paid J. H. Mimms, reporting	30 17	
Paid Hotel Vermont	43 35	
Paid Stenographer	4 40	
		$202 01

Printing

Paid The Tuttle Co., miscellaneous printing	$50 62	
Paid C. E. Allen, miscellaneous printing	33 70	
		$84 32

Post-Graduate Meetings.

Paid Dr. W. G. Ricker, expenses	$ 7 64	
Paid Dr. R. E. Smith, expenses	23 40	
Paid Dr. C. H. Beecher, expenses	19 74	
Paid Dr. S. Dana Hubbard, expenses	38 25	
(Rebate, $4.35.)		
Paid Dr. Thos. Ordway, expenses	5 92	
Paid Dr. W. W. Townsend, expenses	14 95	
Paid Dr. F. B. Lund, expenses	13 46	
Paid Dr. C. A. Porter, expenses	12 46	
Paid for reporting Dr. Bainbridge	3 00	
		138 82

Secretary's Account

Paid Dr. J. M. Hamilton, salary	$50 00	
Paid Dr. J. M. Hamilton, expenses	119 65	
		169 65

Medico-Legal Account

Paid Warren R. Austin, services as attorney		55 85

Miscellaneous Account

Paid Dr. W. G. Ricker, exp. Executive Com.	$7 03	
Paid Dr. C. F. Dalton, postage	5 00	
Paid Dr. C. F. Dalton, expenses	3 06	
		15 09

"Vermont Medicine" Account

Paid expenses eight issues (see detailed acct.)		967 42
Total Expenditures		$1,633 16
Balance on hand October 1, 1916		$4,040 73
Balance after deducting medico-legal fund		330 72
On deposit Burlington Savings Bank	$1,208 98	
On deposit Champlain Trust Co.	2,052 70	
Checking Account Burlington Trust Co.	779 05	
		$4,040 73

MEDICO-LEGAL FUND

RECEIPTS

On hand October, 1915	$2,918 82	
Received from 376 members at $2.00	752 00	
Received from 6 members at $1.00	6 00	
Received from interest on Savings Bank deposits	89 04	
		$3,765 86

EXPENDITURES

Paid Warren R. Austin, attorney	55 85
Available balance, October 1, 1916	$3,710 01

"VERMONT MEDICINE" ACCOUNT.

RECEIPTS

Received during Jan., 1916, advs., etc.	$50 58	
Received during Feb., 1916, advs., etc.	87 29	
Received during Mar., 1916, advs., etc.	87 43	
Received during Apr., 1916, advs., etc.	94 50	
Received during May, 1916, advs, etc.	52 40	
Received during June, 1916, advs., etc.	78 19	
Received during July, 1916, advs., etc.	156 18	
Received during Aug., 1916, advs., etc.	67 39	
Received during Sept., 1916, advs., etc.	72 98	
Total receipts for eight issues		$746 94

EXPENDITURES

Paid The Tuttle Co., Jan. number	$150 00	
Paid The Tuttle Co., Feb. number	93 89	
Paid The Tuttle Co., Mar. number	94 26	
Paid The Tuttle Co., Apr. number	108 49	
Paid The Tuttle Co., May number	84 59	
Paid The Tuttle Co., June number	96 54	
Paid The Tuttle Co., July number	80 94	
Paid The Tuttle Co., Aug. number	102 49	
		811 20
Paid The Tuttle Co., reprints		16 60
Paid The Tuttle Co., rubber stamp		40
Paid Geo. E. Chalmers, stationery		2 25
Paid C. E. Allen, printing		22 00

Paid for stenographic work	32 05
Paid for News Notes	12 00
Paid Wilson Clothing Co., portfolio	3 75
Paid Dr. J. M. Hamilton, expenses	28 20
Paid Dr. A. S. M. Chisholm, expenses	38 97
Total	$967 42
Gross deficit	$220 48
Bills receivable Oct. 1916	92 17
Net deficit	128 31

Respectfully submitted,

CHAS. F. DALTON,
Treasurer.

REPORT OF THE EXECUTIVE COMMITTEE

To the Members of the Vermont State Medical Society:

Your Executive Committee begs to offer as its report the program which is in your hands and is now being carried out.

The Clinical Sessions of the last 2 years has been continued and the only innovation is that the speaker under the Trust Fund delivers the Evening Address.

The House of Delegates voted last year that the Treasurer should give a bond satisfactory to the Executive Committee. The duties of this Committee are not of such a nature that this was practical.

The bond should be made satisfactory to the President.

Respectfully submitted,

JAS. M. HAMILTON,
WM. G. RICKER,
J. A. STEVENSEN.

REPORT OF THE PUBLICATION COMMITTEE

October 5th, 1916.

To the Members of the Vermont State Medical Society:

Soon after the adjournment of the meeting last year Dr. Stanton S. Eddy, a member of the Committee, tendered his resignation and Dr. A. Stuart M. Chisholm was appointed in his stead by the President.

Early in the year we began work on the proposition of establishing some sort of a periodical in accordance with the authority given by the House of Delegates. After a great deal of consideration it was decided to put out a modest monthly journal which was named VERMONT MEDICINE. This journal has been mailed to every member and you are the ones to judge whether we shall receive your approval.

The House voted $400.00 for the use of the Committee but the postal laws are such that a specific sum must be voted from each member as the annual

subscription to a society owned periodical if that paper is to have second class mail privileges. So the Council by a documentary vote appropriated $1.00 from each member's dues as subscription to VERMONT MEDICINE.

Of this sum which would amount to $401.00 a large portion is to be voted back into the general fund.

VERMONT MEDICINE has been very fortunate in securing advertising.

In the beginning we decided you would not be satisfied with a journal not absolutely ethical nor with one whose pages were filled with advertisements of products of at least questionable value, so we joined with the other state society owned journals in the work being carried on by the Co-operative Medical Advertising Bureau of the American Medical Association.

There are now 28 State Societies that own and control their own periodicals and unite in with this bureau and agree to take the ads of no Pharmaceutical product that does not have the approval of the Council of Chemistry and Pharmacy of the A. M. A.

The August Number, the last that was figured in this report, carried 3⅜ pages of ads secured by this Bureau.

The Treasurer's report will show just the cost of the periodical for the first eight months of its life to be $128.31 or $271.69 below the amount appropriated by the House of Delegates. This is the only expense incurred by this committee.

As near as we can tell from the reports as printed the expenses of the various Publication Committees for the last six years have been as follows:—1911, $400.00; 1912, $300.00; 1913, $500.00; 1914, $424.50; 1915, $484.86 and for this year (including 8 numbers of Vermont Medicine) $128.31.

If this Journal is continued the members should remember that the first reason for establishing a periodical was to have a medium for communication between members. ONLY ONE such letter was received. You could aid very materially too by writing the advertisers.

Your Committee would respectfully recommend that the by-laws be so amended by the House of Delegates (provided of course you wish the journal continued) that the Publication Committee at its first meeting elect from its own number or from the other members of the Vermont State Medical Society an Editor and a Business Manager, and fix their duties in the management of VERMONT MEDICINE and their salaries within such limits as the House of Delegates shall prescribe.

Respectfully submitted,

JAS. M. HAMILTON,
CHAS. F. DALTON,
A. S. M. CHISHOLM.

REED'S BACILLUS OF EPILEPSY,

By

A. J. Hinkelmann,
Galesburg, Ill.

Director, Galesburg Laboratory

Through the work of Reed, the question of a specific organism as the exciting cause of the seizures of epilepsy has been set forth. Having previously worked from a different basis with an organism I believe is the same as the one isolated by Reed, and having since the appearance of his articles, succeeded in finding the organism in the blood of an isolated case of epilepsy, I am in a position to add a few facts to what Reed has already said. I am sure this will be of further aid to the profession in

the direction of reaching final conclusions as to the significance of the organism.

Method of Invasion of the Human System.

Under this head, Reed has made very clear the point that the organism is evidently taken into the intestinal tract by way of the mouth, and enters the blood through a cecal or an appendiceal focus, and leaves the question open as to the danger of communication. What would be the consequence in case the organism was ingested by a normal individual, and to what extent may those with predisposing lesions expect to escape infection?

From a basis of experiment I conducted during the summer of 1915, and before I had any knowledge of the pathology of the organism, it may be stated that it is a very frequent inhabitant of the intestinal tract of probably the majority of people. My conclusions at the time of my experiments were that it is one of the regular members of the so-called intestinal bacteria.

My interest in the organism was its high resistance to germicidal agents, and through this fact it becomes an easy matter to demonstrate its presence in the intestinal flora and also that it is commonly present. It will live in phenol solutions of from 5 to 10 per cent for many hours and a much higher strength is necessary to kill it instantly. Among the very large number of different species of bacteria that are usually found in the intestines, it is commonly the only one that will survive a thorough treatment of the stool with a 5 or 10 per cent phenol solution.

My method of isolation was as follows: From 25 to 30 grams of solid feces were made into an emulsion with 50 cc of 5 per cent solution of phenol and allowed to stand for 30 minutes or an hour; cultures were made on agar slants and incubated. I have never made such cultures from the stools of epileptics with the view of noting how numerously the organism is present, but in normal individuals, a loopful of the above emulsion spread over an agar slant will yield from 1 to 6 colonies after twenty-four hours of incubation.

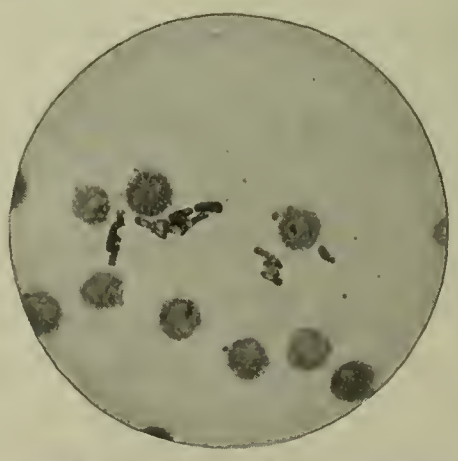
The organism is highly haemolytic, and to this last fact may be due a part of the pathological conditions present in epileptics. Cultures made on blood agar plates will show a haemolytic spot at the point of a growing colony long before the colony itself becomes visible. In the case that came under my observation, I found it abundantly present in the capillaries, and both the spores and the organism could easily be demonstrated in smears from the blood directly.

CONCLUSION.

In view of the fact that the organism does enter the circulation and there multiples into great numbers and is so generally found in the blood of epileptics, the conclusions of Reed as to its specific nature become at least very plausible. It would be hard to conceive that an organism with such a high haemolytic property could enter the circulation and multiply to such numbers as smear preparations from the blood indicate without producing diseased conditions within and resulting in corresponding clinical manifestations without.

At any rate, what has already been established in regard to the organism makes the question one most worthy of serious consideration and extensive investigation. The universal presence of the organism in the intestinal flora is no argument against its probable pathology, but simply adds to the importance of the gateway through which it enters the blood stream, in consideration of the question of treatment.

If further investigation should finally establish that the *Bacillus epilepticus* is the exciting cause of the seizures of this disease, little probably can be hoped for in the way of prophylaxis or cure through efforts to prevent the organism from entering the intestinal tract or to eradicate it when present. The best attention probably will have to be directed toward those lesions which open the way for it from the intestines into the circulation.—*New York Medical Journal.*



Bacillus epilepticus directly in blood smear from an epileptic patient 5 hours after seizure

Secretary's Page

The one hundred third annual meeting of the Vermont State Medical Society was held in St. Johnsbury, October 12th and 13th, 1916.

The meeting was well attended and the papers and clinics well received.

The Committee of Arrangements, under Dr. Farmer's chairmanship, were particularly effective, no detail being overlooked.

The ladies were entertained at a reception with program at the Underclyffe, the beautiful residence of Mrs. Frank H. Brooks, and were given an auto ride to the Vail Farm by the Commercial Club of St. Johnsbury. They also attended the Annual Dinner.

The Annual Dinner was served at the Avenue House and was "very satisfying." One hundred and twenty-seven members and guests were seated. Dr. F. E. Clark, as Anniversary Chairman, added new laurels to the many he has won as a post-prandial speaker.

The list of new officers will be found elsewhere in this issue and to them we extend our sincere congratulations.

This number of VERMONT MEDICINE is issued by the retiring Publication Committee as the new Committee has not yet formulated its plans for the coming year.

J. M. H.

BURLINGTON, VT., October 10, 1916.

Dr. J. M. Hamilton,
Rutland, Vt.

My dear Dr. Hamilton:

At a conference held in Rutland a few days since a topic was discussed which is now being considered with great interest by many people throughout the state.

The topic is "The welfare of the dependent defective children of Vermont, physical, mental and otherwise, and the duty of the state towards such children. There is no doubt but Vermont is seriously behind most of her sister states in recognizing the responsibility of the state towards children of this class. There is no means of knowing at present the number there may be of such children, but everyone who has paid any attention to the subject knows that there are a very large number that should have help from some source. The Homes now in existence in the state for such children have many more applications for admission than they are able to grant, and they hear from but a small fraction of those who should be considered.

Before any definite plan can be made to present this matter to the proper officials and to the legislature of the state some means should be taken to arrive at a fairly accurate estimate of the number who should receive aid from some source. It is with the hope that through the members of the Vermont Medical Association some quite definite information can be received from the various parts of the state, that I write you concerning this matter.

I wish that the subject could be presented at the coming meeting of the Association and that the need of some action be discussed. The Vermont State Conference of Charities and Correction

would be glad to furnish the proper blanks to be used for making such reports, and if the physicians of the state would use such blanks and would report to the secretary of the association, it would be a great help towards getting some definite knowledge of the needs.

Persons that are at all familiar with the work by the Home for Destitute Children at Burlington, the Kurn Hattin Homes at Westminster and Saxtons River, St. Joseph's Orphanage at Burlington and other similar institutions, well know how much it means to take these children from conditions of poverty and suffering where they lack all opportunity for development and for education and place them where the environment and training will be such that they may grow up into men and women of good character and of real value to the communities of which they are members, instead of being of such character that they will be a detriment and a real loss to the state.

It is true patriotism on our part to strive to make the future citizenship of the state of a high class instead of permitting children to grow up under conditions where they are more likely to be a menace than to be a help.

I thank you for your offer to have this matter presented at the meeting of the Medical Association, and trust that some action may be taken along the line which I have indicated.

Very truly yours,
W. J. VAN PATTEN.

The above letter was presented to the House of Delegates and the Secretary was instructed to aid in securing the desired information.

J. M. H.

From the Council of Pharmacy and Chemistry

During September the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

The Abbott Laboratories:
CHLORAZENE
Chlorazene Tablets, 4.6 grains.
Merck and Company:
BENZIDINE-MERK (For Blood Test.)
E. R. Squibb and Sons:
THROMBOPLASTIN-SQUIBB

NEW AND NON-OFFICIAL REMEDIES

Solution of Hypophysis-Squibb.—A sterilized, aqueous solution of the water-soluble active principles of the posterior lobe of the pituitary bodies of cattle, free from chemical preservatives and physiologically standardized. It has the properties of the pituitary gland, as described in New and Non-official Remedies, 1916. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 2, 1916, p. 745).

Benzidine.—In medical practice benzidine is used for the detection of occult blood. In the presence of hydrogen peroxid and acetic acid, benzidine is changed to a deep purple compound by the action of blood. The test is said to detect blood in a dilution of 1 in 300,000.

Benzidine-Merck (For Blood Test).—This complies with the standards prescribed for benzidine, N. N. R. Merck & Co., New York (*Jour. A. M. A.*, Sept. 16, 1916, p. 879).

Occult Blood Test (Dudley Roberts).—This consists of tablets each containing 5 grains of trituration of benzidine, 1 part, and sodium perborate, 20 parts, and glacial acetic acid (supplied in boxes containing 100 tablets in vials, and a bottle of glacial acetic acid). A tablet is treated with a weak solution of the material to be tested and a drop of acetic acid added, a greenish blue color indicates the presence of blood. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 16, 1916, p. 879).

Mercurial Oil.—A mixture containing from 40 to 50 per cent of metallic mercury in an oily base. The mercury is in a finely divided state and of a consistence which permits its intramuscular injection by means of a proper syringe at room temperature. The degree of subdivision of the mercury should be indicated for each brand of this product. Mercurial oil is used as a means of obtaining the systemic effects of mercury. Cumulative effects should be carefully watched for.

Mercurial Oil—National Pathological Laboratory.—A mixture of equal weights of mercury and lanolin obtained by triturating the constituents until mercury globules are no longer microscopically visible. It is marketed in graduated syringes ready for use and containing 2 cc. National Pathological Laboratories, Chicago (*Jour. A. M. A.*, Sept. 23, 1916, p. 935).

Liquid Petrolatum-Squibb, Heavy (Californian).—It is made from Californian petroleum and is claimed to be composed chiefly of hydrocarbons of the naphthene series. A brand of liquid petrolatum complying with the U. S. P. standards for liquid petrolatum and claimed to to be superior to liquid petrolatum, U. S. P. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

Thromboplastin-Squibb.—A solution of brain extract complying with the standards for solution brain extract, N. N. R. It is marketed in 20 cc. vials. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Sept. 23, 1916, p. 953).

Chlorazene.—Chlorazene (sodium para-toluenesulphochloramine) is an active germicide acting much like hypochlorites, but being less irritating. Like the hypochlorites it has the advantage over mercuric chloride, zinc chloride, etc., in that it does not coagulate or precipitate proteins, such as blood serum. Chlorazene is reported to be practically non-toxic. The Abbott Laboratories, Chicago, Ill. (*Jour. A. M. A.*, Sept. 30, 1916, p. 1021).

News Notes

Dr. Albert James Mackay

Dr. Albert James Mackay, of Peacham, died at Brightlook hospital, St. Johnsbury, Monday, September 11th, following an operation for an intestinal trouble performed Saturday morning.

Doctor Mackay was the only physician in Peacham and had a very large practice throughout the farm towns of Caledonia county. He represented the town in the Vermont legislature of 1915-1916 and was a member of the committees on education, the insane, and public health.

He was born in Canada, February 16, 1866, and after receiving his M. D. from the University of Vermont, Burlington, located in Peacham in 1897 to practice. He had been school director and health officer for 10 years.

In 1902 he married Mary Clark Blair, who survives him with three children.

Northfield.—At the Washington County Medical society meeting at the Northfield House, September 19th, the following officers were elected: President, G. S. Bidwell of Waterbury; vice-president, C. H. Burr of Montpelier; secretary-treasurer, H. A. Whitney of Northfield; auditor, D. C. Jarvis of Barre. Dr. Bidwell read a paper on "A Few Observations on Consumption Without Tuberculosis."

Dr. F. E. Clark of Burlington, who is at present at Fort Ethan

Allen, has been entrusted by the officers of the Vermont Chapter, American Red Cross with the task of studying the Red Cross base hospital, one of which the chapter hopes to have.

These hospitals are organized so as to be at the service of the government in case of need. There are about 25 in the country. Boston had one of the earliest. The members of the Vermont chapter are getting supplies together for a hospital to accommodate 500. Plattsburg, N. Y., is now conducting a home preparedness campaign and such a hospital would be part of home preparedness, says Harry S. Howard, state treasurer.

The chapter now numbers 1,050 members. Fifteen new recruits have joined the Woodstock branch, which now has 45 members.

About 40 members of the Caledonia County Medical association, together with their guests, met at the St. Johnsbury House, Tuesday evening, September 19th, to hear Dr. Charles F. Painter of Boston, Mass. Dr. Painter, who is an orthopedic surgeon, delivered a paper upon the subject, "The Relation of the Practicing Physician to Patients Suffering from Orthopedic Troubles."

The members of the association and their guests, who attended from Whitefield, Littleton and Lancaster, N. H., met for supper at the St. Johnsbury House at 6:30. After supper they repaired to the parlors at the hotel, where the meeting was opened with President Frank E. Farmer in the chair.

Following the paper delivered by Dr. Painter a clinic was held.

A committee on Red Cross medical work for Rutland county has been named by Dr. J. S. Eastwood of Brandon, president of the Rutland County Medical Society. This committee comprises a body of representative physicians of approved qualifications who will direct or participate in medical work in times of emergencies. Doctor Eastwood will serve as chairman, and the following will act with him: Dr. C. A. Gale of Rutland, Dr. J. S. Horner of West Pawlet, Dr. W. H. Grinnell of Danby, and Dr. F. H. Gebhardt of Rutland.

The object of the new organization is primarily designed to meet local emergencies when conditions of disaster are such as to call for the intervention of the Red Cross.

Dr. H. H. Miltimore of St. Johnsbury is ill with typhoid fever.

Dr. E. B. Watson, who has been a practicing physician in Williamstown, has moved to Alstead, N. H.

Dr. and Mrs. John D. Hanrahan of Rutland attended the National Grand Army encampment in Kansas City, Mo.

Dr. M. F. McGuire of Montpelier, who has been seriously ill at Heaton Hospital in that city, is making favorable recovery.

Dr. P. H. Irish, who has been practicing in Waterbury the past three years, has returned to his former home in Akeley, Minn.

Dr. and Mrs. Henry L. Wilder, who were married in New York, August 9, have arrived in Burlington after a motor trip through New England.

Dr. Edward A. Tobin of North Bennington, who is first lieutenant in the Medical Reserve Corps of the United

States Army, was ordered recently to report for active duty at Plattsburg and went there at once.

The medal handicap event at the Waubanakee Golf Club at Burlington, was won by Dr. E. H. Buttles of that city, whose round scores were 50 and 56 with a handicap of 30, making the net score 76.

Dr. and Mrs. F. R. Hastings and daughter, Marjorie, of Barton, recently took a canoe trip down the Connecticut River, starting at Wells River. They carried a complete camping outfit, living out-of-doors during the entire trip.

Dr. B. D. Adams of Burlington has returned home after an absence of seven weeks during which time he visited clinics in New York, Dr. George W. Crile's Clinic in Cleveland, Dr. Albert J. Oschner's Clinic in Chicago and the Mayo Clinic in Rochester, Minn.

Dr. Charles D. Wilkins, formerly assistant at the Brattleboro Retreat and for three years superintendent of the charity hospital of Louisiana at New Orleans, has been appointed superintendent of the Michael Reese and Sarah Morris hospitals in Chicago and has taken up his work in that city.

Dr. W. L. Wasson of Waterbury has been having a vacation from his duties at the State hospital and, in company with Messrs. Mansur, Buell and Humphrey of Burlington, has been in Canada for a month's hunting trip. The party stayed at the Scott Hunting and Fishing Club in Quebec.

Dr. and Mrs. J. A. Dow have returned to their home in Bradford from Burlington where they have been for several weeks while Dr. Dow has been in a sanatorium for treatment. He is making satisfactory recovery.

Dr. E. J. Rogers of the Vermont Sanatorium at Pittsford has been in New Haven, Conn., attending the meeting of the New England section of the National Association for the Study and Prevention of Tuberculosis.

Dr. R. H. Burke has sold his property in West Burke and, with his wife, has gone to St. Johnsbury where he has located for practice, having leased the house of Dr. T. R. Stiles who has located in St. Johnsbury Center.

Dr. W. D. Berry has sold the property in Burlington known as the Lakeview Sanatorium to Dr. E. O. Crossman of Lisbon, N. H., who is at present on the staff of the Psychopathic Hospital in Boston. Dr. Crossman is to take possession of the Sanatorium January 1st.

Dr. W. R. Rowland, a prominent physician of East Corinth, has been granted by the fellowship committee of the Universalist Convention of Vermont and the Province of Quebec a laymen's license to preach.

To fill the vacancy caused by the departure of Dr. P. S. Duffy for Newark, N. J., Dr. J. A. Wark has been appointed City Physician at Barre.

Through the combined efforts of the Rev. Fraser S. Metzger, Drs. J. P. Gifford and G. W. Scott and members of the Sanatorium Aid Society of Randolph, the $5,000 necessary to raise in order to secure the conditional gift of an equal amount by the school and hospital benefactor, the Hon. Ira C. Calef of Washington, Vt., has all been subscribed.

Dr. William B. Mayo of Northfield, Democratic candidate for Governor, filed his statement of campaign expenses, stating that he had paid out 79 cents, 47 cents for telephone calls and 32 cents for postage. Dr. E. R. Lynch, Democratic candidate for town representative from Brattleboro, stated that his campaign cost him two cents which he paid for a postage stamp.

Dr. Foster Platt, who for two months was in charge of the practice of a Fifth Avenue, New York, physician, while the latter was on a vacation, has been at "Camp Randolph," Highgate Springs, with his parents, Mr. and Mrs. E. A. Platt. He is considering locating in Burlington.

Dr. and Mrs. L. C. Holcombe of Milton sailed September 12 from Boston for Norfolk, Va., going from that point to Newport News to visit Dr. Holcombe's sister. From Newport News they went to Chattanooga, Tenn., where Dr. Holcombe represented the Grand Lodge of Vermont, Independent Order of Odd Fellows, at the meeting of the Sovereign Grand Lodge of the World.

Dr. E. C. Burrell of Barnard drove so near the edge of a bank while going to Pomfret that the earth gave way and his car went down the bank. He escaped injury but the car was badly damaged. Dr. Burrell drove too close to the bank in order to turn out for a team.

Dr. and Mrs. Charles Lee King of Pasadena, Cal., have been guests of Mr. and Mrs. H. H. Wheeler in South Burlington. Dr. King is a former Vermonter who went to California many years ago and rose to eminence in his profession. He is part owner in a big winter resort at Pasadena.

Dr. and Mrs. P. S. Duffy and child of Barre have gone to Newark, N. J., where they expect to reside. Dr. Duffy, who has been city physician at Barre the past two years, has not tendered his resignation yet although he has withdrawn his professional connection with several fraternal orders in the city.

Announcement is made of the marriage of Miss Bertha Sanders, daughter of Mrs. Lulu Sanders Mott, to Dr. Charles P. Chandler of Montpelier, son of Dr. and Mrs. Charles E. Chandler of that city, which took place at the home of the bride in Hammondsport, N. Y., October 10th. Dr. and Mrs. Chandler will be at home in Montpelier after November 15th.

Dr. O. V. Greene of Bethel has purchased of Miss Leila H. Cushing the Harrington place on River Street in that village, possession to be given in November. It is the plan of Dr. Greene, with the co-operation of other local physicians and a few from adjoining towns, to utilize the property for a Sanatorium. The Sanatorium is to be under the direct supervision of Dr. Greene.

Dr. M. J. Mangan, aged 45 years, died at his home on River Street, Rutland, October 7th after an illness of two years of heart trouble. He was graduated from the College of Medicine of the University of Vermont in 1905 and had practiced in Rutland since that time. He was at one time City Physician. Dr. Mangan is survived by one brother, James S. Mangan, and three sisters, Misses Mary A., Ellen E. and Jane Mangan, all of Rutland.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 11 $1.00 per Annum

Rutland, Vermont, November, 1916.

Original Papers

VICE-PRESIDENT'S ADDRESS.

Delivered at the Annual Meeting of the Vermont State Medical Society, October 12, 1916.

SIMPLE DRESSINGS FOR SIMPLE FRACTURES.

Clayton Witters Bartlett, M.D.,
Bennington.

The large number of deformities following simple fractures of the wrist, ankle, and clavicle, and the number of persons who show at a glance just what has some time happened to them, has caused one to wonder whether these fractures are really hard to reduce and retain during repair, or whether we are passing too lightly over the consideration of what may be done to secure better results.

It is such a common thing to see a person with a crooked wrist which we recognize as a result of a simple Colles' fracture, or walking more or less upon the inside of one foot with the toe turned out, and ankle showing a forward displacement of the tibia or the astragalus, that we are apt to pass on without giving the matter any further thought.

Many of our text books have continued to hand down the descriptions found in the earlier editions of Gray's Anatomy, and to quite an extent disregard, or fail to carefully consider some of the things the X-ray plates have shown us in recent years.

Gray's Anatomy describes Colles' fracture as follows: "This fracture usually takes place from half an inch to an inch above the articular surface if it occurs in the adult, but in a child before the age of sixteen it is more frequently a separation of the epiphysis from the diaphysis. The displacement produced is very considerable and bears some resemblance to dislocation of the carpus backwards, from which it should be carefully distinguished. The lower fragment is drawn upwards and backwards behind the upper fragment by the combined action of the supinator longus and the flexors and extensors of the thumb and carpus, producing a well marked prominence on the back of the wrist, with a deep depression above it."

It would be hard indeed to describe the gross appearance of a typical case of Colles' fracture in better words. The treatment given consists of flexing the forearm and making powerful extension from the wrist and elbow, depressing at the same time the radial side of the hand, and retaining the parts in this position by a well padded pistol-shaped splint. No reference is made to impacted fracture, or to fracture of the scaphoid, and in this respect I believe the author is quite right, for I am in doubt whether the scaphoid is as frequently involved in

Colles' fracture as some writers would have us suppose.

Now, the typical cases of Colles' fracture I have seen do *not* occur at a point from one-half to one inch above the articular surface of the radius, and in fact they rarely involve the whole articular surface. More often the fragment consists of a part of the styloid process of the radius, and not a large part either. This small fragment of bone is pushed upwards and backwards beneath the tendons of the extensor carpi radialis and internodii policis muscles, tearing away the posterior ligament.

In that position the fragment of bone is so tightly held by the tendons mentioned that no amount of pulling can dislodge it and force it back into place. In fact it would seem that pulling in a straight line, with or without the arm being flexed, would only serve to tighten the grip of the tendons upon it, and that the deformity so often seen would be the natural result of putting on a pistol-shaped, or for that matter any other splint, if one should follow the instructions of Gray and others who recommend that method.

In order to get a perfect result, a wrist that will show little if any evidence that it has even been fractured, it is necessary that the displaced fragment should be replaced in, or very near, its normal position, before any dressing is applied, and if that can be done there seems to be little if any tendency to future displacement while the repair is taking place.

The method I use in reducing this fracture is not an original one, and I am unable to learn who devised it. It consists of grasping the forearm above the fracture with one hand, and with the other extending the hand, bending it back as far as can comfortably be done. Then with one, or both thumbs, press the fragment forward and downward into place. As the fragment of bone moves forward into its proper position beneath the posterior ligament the hand is released and allowed to resume its normal position, and if the fragment of bone has been properly replaced the deformity has entirely disappeared.

In regard to dressing, I think almost any of the dressings commonly used will answer well providing they are not too tight. The pistol-shaped, or any other well padded posterior splint that will keep the hand from becoming extended during repair, and a sling that will hold the forearm across the body, thumb up, are all that is necessary. I remove the dressing and wash and clean the hand and arm frequently, and am careful that the bandage shall not be too tight. If the bone is in place it will not get out again unless the hand is extended far enough to push it out.

In the case of Pott's fracture, the description given in Gray's Anatomy seems to be a very accurate one and I will again quote from it.

"Fracture of the fibula with displacement of the tibia, commonly known as Pott's fracture, is one of the most frequent injuries of the ankle joint.

"The end of the tibia is displaced from the corresponding surface of the astragalus, the internal lateral ligament is ruptured, and the internal malleolus projects inward beneath the integument which is tightly stretched over it, and in danger of bursting. The fibula is broken usually from two to three inches above the ankle. The foot is everted by the action of the peroneus longus muscle,

its inner border resting upon the ground, and at the same time the heel is drawn up by the action of the muscles of the calf of the leg. This injury may be at once reduced by flexing the leg at right angles with the thigh which releases all opposing muscles, and by making slight extension from the knee and ankle."

I cannot imagine a better description of the existing condition in the ordinary case of Pott's fracture. The lateral ligament is torn off, the tibia is dislocated or displaced inward and forward, and the fibula broken two or three inches above the ankle joint.

Now, why do we see deformity and a limp following in perhaps half the cases after repair has taken place, while the others who have sustained the same injury make perfect recovery?

Is it necessary that so many should be compelled to walk on the inside of the foot with toe pointing outward and downward for the rest of their lives? What is the cause of this deformity and loss of function? Ask one of these men how long he was in recovering from the injury and he will usually tell you it was three to five months before he was able to walk without the aid of a crutch or cane.

The X-ray plates show clearly why this is so, but the X-ray in this, as in other places where its usefulness is beyond question, fails to show us how to prevent such a result, and it is up to us to devise a plan which will do it.

The paragraph quoted from Gray's Anatomy gives all the advice necessary for reducing this fracture. No attempt should be made to reduce any fracture without an anesthetic, and under anesthesia Pott's fracture is not difficult to reduce. The trouble comes afterwards, and is generally due in the first place to a rather tight circular bandage over the point of fracture of the fibula which is bound to depress the fractured ends of the bone and displace the tibia from its normal bed on the astragalus. This also tends to separate the ruptured ends of the lateral ligament so that when repair takes place it is longer than before rupture. The heel is likely to be drawn more or less upward by the gastrocnemius and soleus muscles and unless the dressing applied is one which avoids any and all of these troublesome tendencies, a deformity will result. There is no danger whatever that the patient will ever walk on the outside of the foot after Pott's fracture, or that the toe will be too far in, or higher up than it should be; therefore a dressing which will not press down the ends of the fractured fibula, and will supercorrect the deformity found after fracture has occurred will generally obviate all tendency to the condition so often seen, and will shorten the time necessary for recovery by more than half. Keep the heel well forward, and the foot well pulled in, have no pressure over the broken ends of the fibula and Pott's fracture will recover promptly and with little if any deformity. If as happens in a few cases, the tip of the external surface of the tibia is broken off, just where the inferior interosseous ligament attaches the fibula to it, it may be disregarded. The treatment is the same.

Now I have ceased to use the dressing commonly recommended and instead of the posterior or two lateral splints, I prefer a piece of board 2½ inches wide and ⅜ thick, which I fasten onto the inside of the leg with a stockinette bandage. Half way down the leg I put a pad

of absorbent cotton under this board, which holds it out some two inches from the internal malleolus, and to this free end of the board splint I fasten the foot so as to draw it inward, and forward. The adhesive straps and stockinette bandage used to hold the foot in place do not pass above the ankle joint, so no pressure comes on the fibula over the fracture. To facilitate keeping the foot in this position I sometimes use a fracture box and sand bags, on one of which the heel may rest if a tendency to backward displacement is noticed. After about two weeks the splint is removed and a stockinette bandage may then be applied from the foot to the knee, as no harm will now come from moderate pressure over the fibula. The patient should begin to use the foot at the end of three weeks and will if the work has been well done bear full weight on it by the end of the fourth week, and soon after walk with little if any limp or difficulty.

It is not my purpose to make this talk a complete treatise on fractures, but there is one more to which I will call attention, that is, supracondylar fracture of the humerus. In 1909 Mouchet reported 169 cases of supracondylar fractures treated by himself, and he admits that the result in 50% of these cases was unsatisfactory. More than half of the 169 cases showed more or less of the common gun-stock deformity, and in all of these, complete flexion of the elbow was impossible. Over 40% were limited in extension. This report, while embracing the largest number of cases treated by any one man, does not differ in results from most of the reports published except the one for which Prof. Ashurst of the University of Pennsylvania in 1910 received the Samuel D. Gross prize of fifteen hundred dollars, and it is principally to Ashurst's method of treatment that I wish to call your attention. Ashurst has treated in all 58 cases of supracondylar and intracondylar fractures and it was my privilege to examine and study the X-ray plates and photographs of this entire series so far as he had been able to trace them up to the fall of 1911. I am unable to give a classified statement of the results he obtained, but they were so far superior to those of any other surgeon that his method has been adopted by the leading surgeons and in all of the largest fracture wards throughout the world. He very rarely gets a very noticeable gun-stock deformity, and in nearly all of his cases the patients are able to get sufficient flexion to place the fingers on the shoulder, and in none, so far as I can remember, was there much if any loss of extension.

A method of treatment showing such good results in a class of fractures which all of the best surgeons have considered so difficult that they advise a most guarded prognosis is certainly worthy of consideration.

In cases of supracondylar fracture the lower fragment is always displaced backwards, and drawn up behind the upper fragment when the arm is in straight or nearly straight position as it is usually found. This displacement of the lower fragment may cause serious injury to the ulnar and median nerves, and this injury will either be repaired by nature, or if the fracture is not fully reduced and pressure continues, it may result in neuritis. In Ashurst's 58 cases neuritis of the median nerve was met with as a complication once, and was relieved by a subsequent operation, when the projecting bone was chiseled off and flaps of

fascia sutured beneath the nerve. As in fracture of the humerus higher up, musculospiral paralysis may result if the bandage is allowed to press too hard just where the nerve is rounding close to the bone. Volkmann's ischromic contracture was not met with in Ashurst's series as I remember it. In the experience of most surgeons a more or less complete ankalosis is met with quite frequently, but by Ashurst's method no case was left with anything which could be called ankalosis.

The Ashurst method consists in putting the arm up in hyperflexion which pulls the lower fragment down into place, and maintaning this hyperflexion until consolidation has taken place. The arm and forearm are bandaged together, but the elbow and arm are never bandaged to the chest. He uses stockinette as a bandage, and begins by taking a few turns around the hand and wrist. A folded compress is then placed in the bend of the elbow and the forearm flexed firmly upon it and the bandage carried around arm and forearm down to near the elbow, then a couple of turns are taken over the end of the elbow and between the arm and forearm to keep the bandage from slipping. It is then carried up the forearm to the hand and once around the neck, which fixes the hand just below the chin. On the third or fourth day the bandage is carefully cut away and while the arm is held in the hyperflexed position the arm, hand and axilla are washed clean and a fresh bandage applied the same as before. Redressings are done about twice a week for two weeks, after which flexion is gradually diminished, and at the end of about five weeks dressings are discarded and use of the arm encouraged. Some patients secure complete extension in the sixth week, while in others it is six months or more, but the full use of the arm results in most cases after more or less persistent efforts have been systematically followed, and cubitus varus or other deformity is a rare occurrence.

DISCUSSION.

(Dr. Wheeler)—Mr. President, I am very glad to have an opportunity to say a word on so interesting a paper. I am sorry I did not hear the whole of it, I was late in getting over from the hotel and came in in the middle of it. One point that Dr. Bartlett laid some stress on, I think deserves having more stress on it, that is in the matter of Colles' fracture, that is the importance of having a perfect reduction. If the fragments come into good position, it doesn't make very much difference what kind of an apparatus you use, if you once get the fragments reduced. The late Dr. Moore used to treat his Colles' fractures with just a broad band of sticking plaster about the width of your hand. He was very careful about the reduction, but when it was reduced, that was all there was about it, and his results were as good as most of the results.

The splint which Dr. Bartlett speaks of in treating Pott's fracture does not vary very much from the splint which is spoken of in many text-books, and I do not know anything that meets the requirements better than that. The great requirement is to bring the two ends of the fibula in position. The foot has a tendency to evert, and if you can get it sound and solid, the tendency to evert is very much diminished.

A CONSIDERATION OF CERTAIN UNUSUAL CLINICAL FEATURES OF CHOLECYSTITIS AND ITS SURGICAL TREATMENT

Being the Oration in Surgery Delivered before The Annual Meeting of The Vermont State Medical Society October 13, 1916.

ELLSWORTH ELIOT, JR., M.D., New York

The general subject of cholelithiasis is so extensive that any detailed account of its etiological, pathological, clinical and therapeutic features would require much more space than permitted in the ordinary paper. Furthermore, the abundant and diversified experience in many clinics and hospitals both here and abroad has, in a measure, so standardized the subject that a complete exposition would be both burdensome and unprofitable. The object of this paper, therefore, is not to consider the subject of cholelithiasis as a whole but to call attention to some of its unusual clinical manifestations and to discuss its surgical treatment.

While acute cholecystitis is most frequently the result of gall-stones and especially of their impaction in the neck of the gall-bladder in such a way as to interfere with the freedom of the drainage of its contents, an equally intense cholecystitis may occur, due perhaps to some unusually irritant constituent of the bile, in which no gall-stones are found. Such attacks are observed particularly in males, in the plumber, painter and others accustomed to work in metals, in rheumatic individuals and in those addicted to the use of alcohol. These attacks in their onset and duration are frequently more intense than are the attacks of cholecystitis due to gall-stones and cause a considerable amount of peritoneal irritation and leucocytosis. They differ also in terminating less frequently in suppuration. Subsiding without operation, recurrences are ordinarily prevented and the general condition of the patient improved by the drainage of the gall bladder, continued for from between two and three weeks. Mention of this particular variety of cholecystitis seems justified in order that, in advising operation, the error may be avoided of unduly emphasizing the importance of removing the offending gall-stones, for if in the operation no gall-stones are found the surgeon is placed in an awkward predicament and the patient is inclined to disregard the benefit which, in such a condition, a cholecystostomy usually assures.

Acute cholecystitis sometimes is so intense, although the gall-bladder shows no sign of gangrene, that it is not easily distinguished from an acute duodenal perforation or an acute infection of the head of the pancreas. In this group of cases there is an abundant serous exudate into the peritoneal cavity which, as in the case of duodenal contents or the bloody exudate of an acute pancreatitis, collects in the right lumbar gutter and presents identical physical signs. The acute onset with sudden severe pain referred to the right upper quadrant, the vomiting which may be repeated, and the constipation, occasionally so marked as to suggest obstruction, are common to all of these conditions. They cannot be distinguished by any difference in the leucocytosis. A previous history of gastric ulcer or of biliary colic cannot always be obtained while the frequent association

of pancreatitis with cholelithiasis still further obscures the diagnosis. The clinical picture of these cases is so alarming that immediate operation is invariably advised, a correct diagnosis being possible only after the abdominal cavity has been opened. It is therefore a wise precaution for the surgeon to be prepared to deal with any one of these three conditions in all acute manifestations of intense peritoneal irritation in the right upper abdominal quadrant.

Acute cholecystitis terminating in suppuration or in gangrene is the marked exception. In many cases a decided thickening and increased turbidity of the gall-bladder contents suggests an abscess and the similarity may be so striking that the actual condition is disclosed only by a microscopical and bacteriologial examination.

The clinical features of gall-bladder suppuration in its early stages cannot readily be distinguished from those of acute cholecystitis. The condition is characterized by a persistence of the physical signs, the constitutional disturbance and the leucocytosis. Limited to the gall-bladder this type of infection ordinarily presents no alarming features and thereby differs from the much more frequent infection of the appendix. Even when in neglected cases the abscess has extended beyond the limit of the gall-bladder, it usually remains localized. to the right upper quadrant.

In gangrenous cholecystitis, the infection is much more intense. In this group of cases, the clinical picture is that of a severe spreading peritonitis which, in its early stages, closely resembles the clinical symptoms of a duodenal perforation or of an acute pancreatitis. The early perforation of the gall-bladder leads to the rapid diffusion of its infectious contents to contiguous and then to more remote parts of the peritoneal cavity, in a way clearly analagous to that followed by the contents of a ruptured gangrenous appendix. It is scarcely necessary to emphasize the importance of prompt operation for both of these conditions.

In the examination of all cases of cholecystitis the writer wishes again to call attention to the value of an increased costal resistance in the upper right portion of the costal arch. This symptom first described in a paper published in the Presbyterian Hospital report for 1900 has been constantly utilized by the writer for the past twenty years and has proved a most valuable aid in the diagnosis of all lesions in the upper half of the abdomen associated with localized or general peritoneal irritation.

An increase of the costal resistance is manifest when any given segment of the costal arch is compressed with greater difficulty toward the vertebral column than the corresponding segment of the opposite side. *This symptom is best elicited during expiration and is more clearly demonstrated in the supple arch of the young than in the partially calcified arch of advanced years. The intensity of the muscular rigidity is measured by the degree of compression which it is necessary to exert upon the affected segment of the arch in order to approach the vertebral column.* In all cases pressure on corresponding segments of the arch must be carried out during expiration. While the symptom may be elicited at all ages it is more evident in the supple arch of the young than in the partially calcified arch of advanced years. The intensity of the muscular

rigidity indicated by increased costal resistance is measured by the degree of compression which is required to depress the arch in the direction of the vertebral column. In the different varieties of cholecystitis that portion of the right costal arch formed by the junction of the 8th and 9th costal cartilages shows increased costal resistance, the intensity of the resistance being most marked in the gangrenous variety.

The clinical features of typical cholelithiasis are marked by the occurrence of more or less severe attacks of pain of variable duration referred to the right upper quadrant, radiating to the right side of the back and occasionally to the right shoulder-blade and neck. The intensity of the pain is increased by coughing, sneezing, by an effort of the patient to raise his shoulders from the bed and by the turning over of the patient from one side to the other. In the more severe attacks the patient is confined to bed on account of fever and its associated symptoms. In the intervals between attacks, patients frequently complain of obscure pain and of indigestion. Later on, the attacks become more frequent and of longer duration and jaundice, at first slightly developed and subsiding quickly with the termination of the attack, becomes later more or less permanent according to the degree of duct obstruction. During the attack examination discloses the physical signs of a cholecystitis, while in the interval between the attacks physical signs are positive only when the gall-bladder is distended or when there is a mass or some unusual resistance due to extensive omental adhesions.

A history of typical gall-stone attacks makes the diagnosis a simple matter. Occasionally, however, it is much more difficult, especially in the absence of acute attacks and when symptoms continue for years without the development of jaundice. These cases constitute a group in which the type and location of the pain suggest a gastralgia and as its occurrence and time of maximum intensity is closely associated with the ingestion of food, the stomach is adjudged guilty and treatment is directed to a supposed gastric lesion. This error in diagnosis is all the more excusable because the pain is frequently epigastric and may even be referred to the left side. Prior to the development of gastric chemistry and the bismuth X-Ray a correct diagnosis was not made in these cases until the advent of jaundice. By the use of modern methods of examination, however, gastric lesions are excluded, a hyper-acidity of the stomach contents, only, being found, which is entirely of reflex origin, and which may be associated with either a chronic cholelithiasis or with a chronic appendicitis. A differential diagnosis is made chiefly by the location of the pain, the physical signs, if any exist, and by the employment of the X-Ray. Pain above the level of the navel points to a cholelithiasis but sometimes occurs in a chronic appendix. An increase of muscular rigidity in the lower right quadrant indicates a lesion in the appendix, while rigidity in the upper right quadrant, with or without costal resistance, that of a cholelithiasis.

Examination by the X-Ray is of little value in the detection of gall-stones. Mr. Sims, radiographer at the Presbyterian Hospital, has had a positive result in less than 5% and the shadow has proved positive only when the calculi contain a certain amount of the carbonate of lime. An X-Ray taken directly

after a bismuth enema is of some value in the diagnosis of a chronic appendicitis. In many cases, by this means, fixation, atrophy, stenosis or stasis may be demonstrated. Digital pressure upon the appendix while distended with bismuth occasionally elicits tenderness. It must not be forgotten that a chronic appendix and a chronic cholelithiasis may occur simultaneously while in other cases a chronic inflammation of the appendix is associated with a gall-bladder to which the momentum and other structures are adherent indicating a previous cholecystitis. It is well therefore in all cases of doubtful diagnosis to carefully examine both organs. Rarely the symptoms constituting the above clinical picture may be due to a chronic pancreatitis which is occasionally an associated lesion of a chronic cholelithiasis. In such cases a careful investigation of the stools in quest of undigested fats materially assists diagnosis.

In all abdominal lesions that cause acute peritoneal irritation the occurrence of tenderness and its persistence after the actual pain has subsided is of the greatest importance in facilitating a differential diagnosis. While the point to which the pain, in these cases, is referred is frequently more or less remote from the site of the lesion, particularly when the pain is of reflex origin, the tenderness or soreness resulting from the peritoneal irritation almost invariably overlies the inflamed organ. This tenderness ordinarily persists for from twelve to twenty-four hours after the pain has disappeared and is referred to the same region in successive attacks. Thus, in acute cholecystitis the persistent tenderness would be referred to the right upper quadrant and in acute appendicitis, to the right lower quadrant, while in either lesion the actual pain might have been referred to some indifferent point, even possibly to a point on the left side of the abdomen.

The treatment of cholelithiasis, in both its medical and surgical aspects, still presents considerable difference of opinion. The conservative delay while the radical urge operation. In the event of an operation the conservative advocate the retention of the gall-bladder while the radical emphasize the necessity of its removal. Medical measures are unquestionably of great value and it is the writer's belief that they should invariably be given a fair trial in the early stages of cholelithiasis and that surgical interference is indicated only when they fail to check the progress of the disease. Even in the event of an operation preliminary medical treatment is of value in diminishing the operative risk. Probably medical measures are of the greatest value in the treatment of an acute cholecystitis, including biliary colic, surgical intervention being then justified only when a serious infection or a cholaemic condition is threatened.

The surgical treatment of cholelithiasis resolves itself into:

(a) The choice of incision.

(b) Treatment of gall-stones in the gall-bladder and cystic duct.

(c) Treatment of gall-stones in the hepatic and common ducts.

The incision varies greatly in its location and length. In general that incision which, in giving ample exposure, least impairs the ultimate strength of the abdominal wall is the incision of choice. These important indications are fulfilled by a transverse incision over the gall-bladder to be extended as far as

may be necessary toward the median line.

Such an incision avoids the motor nerve distribution of the rectus muscle and divides the transverse muscle and aponeorosis in a direction parallel to the long axis of the fibres. It is therefore a muscle splitting operation. If, in the prolongation of the incision the muscle substance of the rectus is divided, the resulting scar is merely an additional tendinous intersection which does not impair the muscle strength. In thick abdominal walls or where advanced lesions of the duct require additional exposure, the median extremity of the incision is extended upward in the midline to the ensiform cartilage. An incision of this kind heals quickly and in cases of infection there is much less gaping than after incisions in which the transversalis is vertically divided. The resulting scar is also firmer and rarely becomes the site of a hernia. To enumerate other incisions advocated both here and abroad is unnecessary. Many of them, for reasons already given, weaken the abdominal wall to such an extent that a hernia is not at all uncommon.

With the opening of the peritoneal cavity, the gall-bladder and gall-ducts should be carefully liberated from all adhesions of the omentum, duodenum, stomach and colon and the presence or absence of calculi determined before any part of the biliary tract is opened. Subsequent measures depend upon the extent of the lesions and location of the calculi. If the gall-bladder only is involved, its fluid contents are withdrawn by aspiration, its cavity is then opened and the calculi are removed. By some, as has been mentioned, the removal of the gall-bladder is advocated because the arrangement of the glands of its mucous membrane predisposes to the precipitation of the bile and to the formation of concretions. To leave the gall-bladder behind, therefore, is to invite a recurrence. In this connection the statistics of Arnsperger are of interest. Of 147 in 1912 cases a second operation was necessary in 24. In 16 of these cases the primary operation was a cholecystostomy, and at the secondary operation stones were found in eight and in the remaining eight a chronic inflammation of the gall-bladder. In the remaining 8 a cholecystectomy had been the primary operation. At the secondary operation, in three stones in the common duct were found (which may have been present at the time of the primary operation) and in one instance a stricture of the common duct.

(2) Advocates of cholecystectomy emphasize the fact that this operation eliminates the risk of the development of a carcinoma in the chronically inflamed mucous membrane of the gall-bladder.

On the other hand cholecystostomy is favored because the gall-bladder may be needed for a subsequent chole-cysterenterostomy, should stricture of the common duct develop. This lesion, however, is ordinarily a part of long standing cholelithiasis in which the gall-bladder is generally extensively atrophied and the cystic duct either stenosed or actually obliterated. Under such conditions some other means of establishing a path for the passage of the bile into the intestine would have to be devised.

Perhaps a more logical reason for the retention of the gall-bladder in these cases is that its primary removal deprives the surgeon of a most valuable

guide to the hepatic or common duct in case a secondary operation for stone or stricture, therein situated, is indicated. These are among the most difficult of operations and in the absence of the gall-bladder, identification of the gastrohepatic omentum is made only after a careful separation of adhesions from the under surface of the liver until its transverse fissure is reached; then by careful dissection the hepatic artery is recognized by its pulsation, along the outer side of which vessel the duct should be found.

An important argument against cholecystectomy is the greater risk of the operation. There is the risk of hemorrhage from the slipping of the ligature of the pedicle as well as from the under surface of the liver. A second risk consists in the fact that an unusually short cystic duct or an abnormal arrangement of its course in which it first crosses and then joins the hepatic on its mesial aspect to form the common duct exposes both of these latter ducts to the danger of division or of partial excision.

While all observers agree that a cholecystectomy is unquestionably indicated in all lesions of the gall-bladder which preclude the return of that organ to a normal condition, the writer wishes to emphasize the added risk of this operation in patients of advanced years or in patients with organic circulatory or nephritic complications. All operations for cholelithiasis under such conditions should be limited to the removal of the gall stones and to the establishment of satisfactory drainage of the bile by the shortest possible route. Subject to this important exception, cholecystectomy rather than cholecystostomy should be done when the gall-bladder is atrophic, when its lining mucous membrane is extensively inflamed or thickened, when its cavity is markedly distended, when there is an impaction of calculi in the neck of the gall-bladder and when there is one or more strictures or impacted calculi in the cystic duct. Some observers have also pointed out the advantage of removing the gall-bladder in all cases where the patient has had typhoid fever and where consequently there may be a suspicion of that organ serving as a reservoir for the typhoid bacillus.

In the technique of cholecystectomy, it is essential to first isolate the cystic duct in order to avoid the risk of damage to the junction of that duct with the hepatic. The gall-bladder may then be removed either from above or below according to the individual preference of the surgeon. How long drainage should be continued after cholecystostomy and whether it should be employed or not after cholecystectomy, are interesting questions. Rather too prolonged than too short a period of drainage is advisable after cholecystostomy. My individual preference is for three weeks. This affords ample opportunity for the complete subsidence of an associated cholangitis and through rest and the relief of tension it restores the bile to a normal condition. It also provides for the possible escape of calculi that may have been overlooked in the course of the operation. Furthermore, in the absence of duct obstruction the biliary fistula closes promptly as soon as drainage is suspended.

Drainage after cholecystectomy is always indicated by a condition of distension or inflammation of the ducts, by swelling of the head of the pancreas, by any increase in the size and consistency of the liver and by any evidence of calculi or of calculous material so small

or so situated as not to be easily removed. In all doubtful conditions it is well to ligate the end of the cystic duct with chromic gut and to insert a drain to the region of the pedicle. If cholangitis or any other condition causing obstruction exist, the drainage tract is thereby shut off from the general peritoneal cavity before the ligature on the duct yields to the increased biliary pressure. A biliary fistula is then established without the danger of a spreading peritonitis in case the bile contains infectious material, and continues to discharge bile for a period of from ten days to three weeks, at the end of which time prompt closure ordinarily takes place.

Hepatic drainage is generally unnecessary and should be avoided in these cases as it adds another element of risk to the operation and may predispose to the formation, subsequently, of a duct stricture. Its use, however, as a substitute for drainage through the stump of the cystic duct is imperative whenever the lumen of that duct is the site of partial or complete stricture.

In the consideration of the treatment of calculi situated in the hepatic or common duct, it is scarcely necessary to allude to the crushing of the stone. Such a measure has the disadvantage of predisposing to the development of an acute cholangitis through injury of the mucous membrane as well as to a recurrence of the calculus. It is, therefore, practically obsolete.

Choledochotomy, the operation of choice, may be divided into the supra-duodenal, the retro-duodenal and the trans-duodenal varieties. In all, the gastro-hepatic omentum and the duodenum should be amply exposed and restored to their normal relationship by a careful separation of all adhesions. In the supra-duodenal variety the duct is then opened through a longitudinal incision, parallel to the long axis of the blood vessels either directly over or just above the uppermost calculus, the edges of the divided duct being gently retracted to either side by the insertion of temporary silk sutures. The calculi are then removed by scoop or forceps and the permeability of the duct established by the passage of a small rubber catheter into the duodenum and upward into the hepatic duct through the transverse fissure of the liver. Small calculi or calculous material in this latter situation may be washed out by gentle saline irrigation. The incised duct is then sutured with fine chromic gut leaving sufficient space for the insertion of a catheter drain, one extremity of which is passed upward a distance of several inches into the hepatic duct while the other extremity is brought out of the abdominal incision. Drainage carried out in this manner is indispensable, and in order to insure the drain remaining in position it is well to suture it with chromic gut to the edges of both the divided duct and the abdominal wall.

The supra-duodenal route suffices in by far the larger number of choledochotomies for in those cases in which the calculi lie behind the duodenum their removal from above by forceps or by expression is usually practicable and even when the papilla is obstructed by swelling it may sometimes be dilated and its patency re-established by the introduction of a long slender pair of forceps. Exceptionally where stones are so firmly impacted in the lower segment of the duct that they cannot be removed through the supra-duodenal route, additional room may be gained and the affected segment of the duct exposed by

the reflection of the duodenum toward the vertebral column after division of the posterior parietal peritoneum along its outer convex border. This operation, usually ascribed to Kocher, was done in this country by the late Dr. C. K. Briddon as early as 1894.

In a small percentage of cases the stone is firmly impacted in the papilla of Vater and can be reached only through the trans-duodenal route of McBurney. In this operation the duodenum is incised transversely at a point over the palpated calculus which is liberated, if necessary, by division of the overlying mucous membrane and then readily removed. The patency of the duct should be established after the removal of the calculus by the upward passage of a catheter and any additional calculi removed by forceps introduced through the papilla or through a separate incision in the duct above. The duodenum is then closed in the usual manner and hepatic drainage established by the insertion of a catheter into the hepatic or common ducts. If the liberation of the calculus requires the division of any part of the extra-duodenal wall of the duct, the divided edges of the duct and duodenum should subsequently be approximated by suture, thus forming an internal choledocho-duodenostomy. If the terminus of the duct passes through pancreatic tissue, it may be divided without incurring the risk of a serious infectious pancreatitis.

Under favorable anatomical conditions and in patients with good resistance whose vitality has not been impaired by persistent jaundice of long standing, choledochotomy can readily be done in one operation. On the other hand, when the length of the operation is restricted by the weakened condition of the patient and when deep jaundice predisposes to both infection and alarming post-operative parenchymatous hemorrhage, choledochotomy should invariably be done in two stages. The first operation, carried out in the shortest possible time, should establish ample biliary drainage; in the second operation, done only after the jaundice has disappeared and after the general condition of the patient has sufficiently improved, the obstruction should be removed and the patency of the duct re-established.

Of the hastening of the coagulation period of the blood by calcium lactate or by rabbit serum and thereby decreasing the risk of post-operative hemorrhage, little need be said. Both methods, at times, are successful and are always worthy of a trial.

There remains for consideration the treatment of those cases in which, either as a result of trauma or of long standing cholelithiasis a permanent stricture of variable length has developed in the common duct. Those due to trauma include the very rare subcutaneous rupture of the duct or its actual division through a penetrating wound or in the course of some operation, especially a cholecystectomy. If the damage to the duct is recognized immediately or shortly after it has occurred, the treatment depends upon whether the duct has been completely divided or only a segment of its wall removed. In the latter event the insertion of a drain through the defect in the wall of the duct is usually followed by healing. In cases of complete division, the drain is similarly inserted after approximation by cat-gut suture of the posterior edges of the divided duct. In all cases of this kind subsequent cicatricial stricture is usually avoided. If the interval between the

retracted ends of the divided duct is too great to permit of their approximation the flow of bile into the intestine must be secured by anastomosis between the proximal end of the duct or of the gall-bladder, on the one hand, and the stomach, duodenum or jejunum, on the other, or by some attempt at duct reconstruction. For purposes of anastomosis, the gall-bladder, if available, is the organ of choice and of the intestinal canal, either the stomach or duodenum. The jejunum has the advantage of mobility and therefore of easy approximation to the gall-bladder but the disadvantage of possessing contents progressively more infectious as the distance below the duodenum is increased. In fact, Arnsperger has shown in animal experimentation, that fatal multiple abscesses of the liver have followed, after some months, anastomosis between the gall-bladder and jejunum. The lack of mobility of the stomach and duodenum is compensated for by the separation of the gall-bladder from the surface of the liver which permits of its approximation to either of those organs without fear of undue tension. If the gall-bladder is unavailable either because of atrophy or a previous cholecystectomy, anastomosis must be made between the more or less dilated duct above the point of stricture and the above-mentioned intestine. This may be done either by the end-to-side or by the side-to-side methods. The duct is first sutured to the visceral wall to prevent its subsequent retraction and its extremity is then introduced, if possible, obliquely into the lumen of the intestine with the object of minimizing the risk of an ascending infection as well as in the hope that the bile may thereby enter the intestine in an intermittent fashion. Few successful anastomoses of this kind have been recorded. The small size of the duct, its great depth below the surface, the normally slight range of movement enjoyed by the stomach and duodenum, the probable fixation of both the duct and viscus by extensive adhesions, all combine to make the operation both difficult and hazardous if not, at times, actually impossible.

If such anastomosis is impossible, a biliary fistula must be established temporarily by penetrating the liver tissue with the paquelin cautery, followed by the introduction of a tampon. This operation — the so-called hepatostomy — has provided entirely satisfactory drainage of the bile and is to be done as the first step of a two-staged operation. After the biliary fistula has been thoroughly established in this way, it must be separated in a second operation from the abdominal wall and contiguous viscera and anastomosed with the duodenum or intestine. While the formation of such an anastomosis has been successfully accomplished in both animals and men, it is quite uncertain whether the discharge of bile into the intestine from the liver continues indefinitely. If, as has been claimed, the mouths of the intra-hepatic ducts leading into the hepatic fistula become blocked in the course of a month or six weeks by the formation of granulation tissue, any anastomosis, in which this fistulous tract should form an integral part, would render temporary service only. One case reported by Garré has remained free from jaundice for several years but in this instance it is not impossible that the bile may have found its way into the intestine by some other channel. Owing to the uncertain value of this method in cases where anastom-

osis between the duct and intestine is impossible, the passage of bile into the intestine must be effected by some form of duct reconstruction. This method has proved successful, temporarily at least, in several instances but as it is still in the experimental stage it appears desirable to postpone its further consideration until additional evidence shall permit a more satisfactory estimate of its actual value.

DISCUSSION.

(President Ross)—I will call upon Dr. Henry Crain Tinkham, of Burlington, to open the discussion.

(Dr. Tinkham)—Mr. President, and Gentlemen:

I do not think it is necessary to discuss this paper. The doctor has gone over the subject so carefully that there is practically nothing to be said in the way of general discussion. I have enjoyed the paper exceedingly. As I say, he has taken the subject and discussed it so carefully, that there is really nothing more to be said. The only thing I hope to do is perhaps to emphasize some phases of the question, with special reference perhaps to the needs of the general practitioner. The important thing in the whole question of gall-stone disease, is diagnosis. That is the important question, from the standpoint of the general practitioner, it is diagnosis, and really, the early diagnosis of gall-bladder disease is very important, if we wish to get good results. As the doctor has made very clearly evident, it is the old long-standing cases of gall-bladder disease, where the gall-bladder trouble is organic, which are not satisfactory. In order to get good results from surgical treatment, gall-bladder trouble must be recognized early and treated. I might emphasize the fact that I think was made very clear, too, that treatment for gall-bladder disease is surgical, not medical.

In making the diagnosis, the examination of the patient is only one of the lines of symptomatology. It is a very important line. I was very much interested and very much pleased this forenoon to see the doctor examine the patient. I want to emphasize, however, that the examination of the patient is only one of the lines of investigation. The history of these cases is exceedingly important, and I fear it is a fact that all of us, perhaps, or most of us are very lax in getting at the complete and careful history, not only of gall bladder, but perhaps all our cases. We are too busy or too hurried, and are apt to slide over some of these cases, and as a result many of these cases go on perhaps year after year without any definite diagnosis having been made. The X-ray examination, as the doctor has pointed out, does not in but very small percentage of cases show a shadow of the stomach. In quite a large percentage of the cases, however, if there has been any extensive disease of the gall bladder, there is more or less invagination of the peritoneals, so that after a bismuth injection, in quite a large number of cases, the X-ray does help out in situations of intra-abdominal trouble. Muscular rigidity and tenderness are very largely indicative of rather acute trouble. I would simply like to emphasize what appears to me at least to be the fact that muscular rigidity may be entirely absent, as also tenderness may be when the more acute symptoms subside, and many of these cases present themselves when muscular rigidity and tenderness are absent, but perhaps reappear at a comparatively short interval, with the reappearance of rigidity and tenderness, so that even though rigidity and tenderness are absent on one occasion, the patient should not be dismissed with positive diagnosis that there is nothing the matter with the gall bladder, but should be kept under observation and repeated examinations made. There are a great variety of symptoms in the matter of gall bladder lesions. I am not going to go into that, the doctor has gone through with it very well. The subject of pain in connection with gall-bladder disease is really a very important thing, a very interesting study, and if one follows it up carefully, he gets much valuable information. But we get pain in such a variable part of the abdomen, and refer it to such different parts of the body, and so thoroughly confound it with pain due to some of the other intra-abdominal lesions, that it is almost impossible to differentiate such symptoms. Of course, jaundice simply depends upon obstruction of the common bile duct, not the

cystic duct. If you get an obstruction in the duct, even for a short time, you get or may have jaundice. Sometimes you may have inflammation of the gall bladder without any jaundice, if the duct is still open. So the jaundice, not as I used to believe a good many years ago, was at least a necessary symptom of gall-bladder trouble, but is only an occasional symptom. I think probably the majority of cases of gall-bladder disease do not have jaundice.

I would also like to emphasize the fact that they must not look for one pathological lesion as the explanation of all the symptoms. In these old chronic cases, there are so many cases presented with multiple lesions. The doctor has already called attention to the fact that you may get a chronic appendicitis with a chronic cholecystitis. You may have other lesions, you may have organic lesions of the duodenum, or of the stomach, in fact, there is no reason why you may not have any other disease in the abdomen, although some of these lesions are more particularly co-related than others. But I never am satisfied, I never am satisfied with the one symptom. The only thing I wanted to emphasize was the matter of diagnosis. The surgeon is simply a mechanician.

(Dr. Eliot)—Dr. Williams wanted me to state that as gallstones are composed chiefly of cholesterin, 95 percent cholesterin, which is readily penetrated by the X-ray, it accounts for the failure to diagnose gall-stones in that way, and then he goes on to say it is also true about kidney stones. I have found that most kidney stones can be seen by the X-ray. In fact, I have not found a kidney stone for the last fifteen or twenty years that did not show in the X-ray operation.

Then the doctor wanted also to say that the blood test was of great value. I quite agree with the doctor in saying that one must rely on a collection of symptoms rather than one. I have seen the stomach attached to the under surface of the liver. I am quite sure we have all seen the pylorus and the duodenum twisted around the other way, and then the pancreas in a state of acute inflammation that simulates cancer, and here again, you must have difficulty in the deduction of facts, so that in several of the advanced cases of gall-stone disease, the conditions are complex and not simple. I think there the X-ray is of value, but generally by that time, the history, as well as the other symptoms, has permitted the diagnosis. In cases where the gall bladder is relatively free from adhesions, and where there has been no obstruction, the X-ray assists diagnosis only by the detection of gall-stones, and that is where the X-ray fails. After the administration of bismuth, not only the stomach, but also the bile, as the doctor says, may show some abnormality of the higher flexure, and it certainly will show irregularity of the pylorus. In fact, it is not an uncommon thing in these cases to be confronted with a condition of the pylorus and duodenum which is of such long standing that an operation must be performed.

Again, I want to express my appreciation of the kindness of the society, and of your kindness in asking me to read this paper.

LEGISLATIVE PLANS ON TUBERCULOSIS.

A joint meeting of the state tuberculosis hospital committee and the legislative committee of the Vermont Society for the Prevention of Tuberculosis was held at the Berwick in Rutland, Friday afternoon. The purpose of the gathering was to see what action it is best to suggest to the next legislature in furtherance of the campaign to stamp out tuberculosis and to draw up plans to secure better co-operation from the physicians of the state in the work.

Those present at the gathering were: Dr. John Blodgett of Bellows Falls, chairman of the state Committee on prevention of tuberculosis; H. W. Slocum of Burlington, secretary; Dr. C. F. Dalton of Burlington, secretary of the state board of health; Dr. C. S. Caverly of Rutland, president of the health board; Frank E. Howe of Bennington, F. C. Martin of Bennington, and S. Hollister Jackson of Barre.

The meeting was devoted to discussion and there will another session later to take decisive action.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

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Rutland, Vt., November, 1916.

Editorials

PROHIBITION ADVANCING

Few things in this world are wholly bad, and even out of the welter and tangle of the recent election we may derive the satisfaction of learning that five more of the States have, in a way, accepted the principle of prohibition and voted in favor of prohibition amendments to the Constitutions of their respective States. Eighteen States were already "dry," viz., Alabama, Arizona, Arkansas, Colorado, Georgia, Idaho, Iowa, Kansas, Maine, Mississippi, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, Washington, Virginia and West Virginia. The five that were added this month are Michigan, Montana, Nebraska, South Dakota and Utah, making in all twenty-three, nearly half of the Union. But the strength of the movement is greater and more important than these figures indicate. Nor would the impulse toward sobriety fail if some of them should reverse their present position as Florida, Massachusetts and Vermont have already done. The real strength of the movement is grounded more firmly. Public opinion, social usage, desire for business and professional success, and the interest of self-preservation form a much surer foundation for the hope that at some time, not too remote, we may at last attain to the state of sobriety that Russia enjoys.

MORTALITY FROM WAR AND FROM ALCOHOL

Dr. C. W. Salecby, F.R.C.S., F.R.S., a well-known English physician, has recently issued a statement relative to the comparative mortality due to war and to the use of alcohol by a community. He states that the annual loss of life in Britain amounts to three-fourths of the loss during the first year of the European War.

"The first year of the great war cost us about eighty thousand fine lives of our soldiers and sailors.

"But every year of peace, alcohol takes at least sixty thousand lives in this country. On the most moderate reckoning it is responsible for one-seventh, or about 14% of the whole death rate. This toll of over a thousand lives a week, year in and year out, is three-fourths of the toll exacted by the greatest war in history.

"Estimating from the average size of a family and the known death rate from alcohol, we find that this destroyer of the people, by its destruction of husbands and fathers, makes 45,445 widows and orphans in England and Wales every year, or over 124 every day. These figures are an under-statement, for they do not recognize the fact that the mortality due to alcohol is really much higher among men than women.

"We have in this country an infant mortality of about one hundred thousand per annum, and a mortality of infants before birth which is at least as high. It is estimated that not less than half of this ante-natal mortality, namely, fifty thousand lives per annum, is due to syphilis. Over the whole of this colossal loss of life, before and soon after birth, amounting to not less than 200,000 lives annually, is the trail of alcohol, either doing its deadly work hand in hand with syphilis or destroying life directly on its own account.

"Obviously, therefore, the abolition of the mortality directly and indirectly due to alcohol would vastly more than compensate for the unprecedented loss of life due to the deadliest war in history."—(*Boston Med. & Surg. Journal,* Nov. 9, 1916.)

THE COUNTY SOCIETY

We have always felt that it was a distinct advantage to attend our county society meetings. We have various reasons to offer why we think as we do. Because the Pennsylvania State Journal has put our reasons in better form than we can, we herewith print them and hope by so doing to induce him who reads to go out and lead into the county society some member of the profession who should belong.

Why You Should Join Your County Medical Society

1. Because it is a postgraduate school at home, from which you will derive pleasure and increase your practical and scientific medical knowledge from the papers read, the discussions and clinical reports, making you a better and more successful practitioner.

2. Because it is the best means to promote friendships, mutual respect and pleasant social relations in your professional life.

3. Because it is the best means of avoiding envy, jealousy, local animosity and internal dissensions, which have always discredited our profession, and if you will permit them, will seriously damage your professional career.

4. Because it will help you to improve your financial condition by aiding you to better your business methods in your work.

5. Because it tends to promote unity by which the profession gains in influence and commands a higher respect from the community.

6. Because the county medical society makes it possible to unite the profession into a compact organization to its material advantage and that of each of its members.

7. Because it will enable you to progress in your medical career and become a member of the State and National Medical Associations.

8. Because you owe all this to yourself and to your professional co-workers.

THEREFORE: JOIN YOUR COUNTY MEDICAL SOCIETY. "IN UNION THERE IS STRENGTH."—*The Wisconsin Medical Journal.*

Secretary's Page

Wm. G. Rieker, M.D., St. Johnsbury, Secretary.

A meeting of the Executive Committee was held in Burlington, October 31st. A projected program was laid out for the 104th annual meeting to be held at Barre, and correspondence is now being carried out with different men to act as speakers. It is intended that a Medical Clinic be given during the meeting.

The Local Committee of arrangements was appointed as follows: Dr. M. L. Chandler, Chairman; Dr. W. E. Lazelle, and Dr. J. H. Woodruff.

On November 9th the Publication Committee met at Burlington, and elected Dr. A. S. M. Chisholm of Bennington, Editor of VERMONT MEDICINE for the annual year, and Dr. J. M. Hamilton of Rutland, Business Manager in accordance with the vote of the House of Delegates at the 103rd annual meeting.

Tuesday evening, November 9th, the Presidents and Secretaries of the County Societies together with the Counsellors, Executive Committee and President of the State Society met in Burlington to plan the Post Graduate work for the coming year. There was a good attendance. The meetings held in the various towns during the past two years were reviewed with many expressions of approval, and some suggestions for improvement. The plans for the coming year are not yet completed, but it is most likely that meetings will be held in the following places: At Bellows Falls; alternate meetings at Barre and Montpelier; at St. Albans; St. Johnsbury; at Burlington and at Rutland. In this way it is hoped that larger attendance may be secured at each meeting so as to warrant your committee in securing speakers and assuring them an audience.

One meeting will be held during the winter months, sometime after January first. The other meetings will be held between May and October so as to be more independent of train schedules.

Dr. Percy E. Buck of Glover has been enrolled a member of the Orleans County Medical Society.

POSITION FOR SIGMOIDOSCOPIC WORK

By Donly C. Hawley, A. B., M. D., Burlington, Vermont

A majority of writers express a preference for the knee-chest position, while a minority prefer some other, e.g., Hanes, Sims, or the exaggerated lithotomy position.

Before the days of the pneumatic sigmoidoscope the position was of necessity such as would admit of inflation by atmospheric pressure. Here the knee-chest position was undoubtedly the most satisfactory.

The knee-chest position is trying and disagreeable for the patient and not easy nor always convenient for the operator.

Its use is frequently attended with embarrassment and fear on the part of the patient.

With the pneumatic tube the older method may be done away with.

Place patient in left lateral prone position with left arm drawn out behind back, the patient lying well over on left chest and stomach, the knees flexed, the right more than the left and placed above and well over and beyond the left on the table and with the back concaved as much as possible.

In this position the abdominal muscles are relaxed, while in the knee-chest position they are apt to be contracted.

In a majority of cases the instrument may be passed easily and quickly over the brim of the pelvis and into the sigmoid colon as far as required or to its full length.

This method is not advocated exclusively, but a more thorough trial is urged.

REPORT OF THE COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION

The Vermont State Committee on Health and Public Instruction met Nov. 16, 1915 at Burlington, Vt., to outline work for the year. The following plan was adopted. That there be appointed in each county a committee to make arrangements with the various literary and educational societies to have one or more evenings devoted to questions of Public health. To further these ends, Dr. Grace Sherwood sent to 55 women's clubs of the state, letters suggesting appropriate health subjects for discussion. Efforts have been made to procure speakers for every organization making a request to any member of our committee. Among the educational meetings held was one Feb. 2nd, in Poultney under the chairmanship of Dr. J. J. Dervin. At this meeting Dr. F. E. Clark of Burlington gave an address to an audience of over 400. Under the same chairmanship, Nov. 9th, Dr. Hamilton gave an address before a society in Fair Haven. On Mar. 18th Dr. Caverly gave an address before a woman's club of 300 members at Bennington.

Nov. 9th Dr. Dervin gave a talk before a women's organization in Brattleboro. There have been many other meetings throughout the state held before various clubs, especially those of the Parent-Teachers' Associations. The latter association proved to be one of the best mediums for the dissimulation of facts pertaining to health. Besides the many health meetings of a local character, Dr. S. Dana Hubbard of the Dept. of Health of the city of New York gave addresses in February before popular audiences in Rutland, St. Johnsbury, Barre and Burlington. At each of these meetings Dr. Hubbard had a good audience and his talk was very practical.

Many of the newspapers of the State have expressed a willingness to use the A. M. A. news items; such papers have been placed on the mailing lists of the Association. How extensively these papers are making use of these items, I am unable to say.

The traveling expenses of Dr. S. Dana Hubbard, amounting to $33.90, were defrayed by the treasurer of the Vermont State Medical Society, under the department of the Post Graduate work. The committee on Health and Public Instruction have also incurred the expense of $4.80 for postage and telephone services.

Respectfully submitted,

G. G. MARSHALL,

Chairman.

REPORT OF THE MEDICO-LEGAL COMMITTEE

To the Members of the Vermont State Medical Society:

Your Committee have to report that no member of this society who is entitled to the benefits of the Medico-Legal Fund and the defense has applied to your Committee for aid during the year. Only one application has been made and that by a former member who had allowed his membership to lapse and was therefore not in good standing and not entitled to the benefits of the Medico-Legal Fund nor the aid of the Medico-Legal Committee. In this case as in all other cases, your Committee has taken it upon themselves to render such aid as was possible for them to do in the way of

counsel and moral support without drawing upon the Medico-Legal funds of the Society. In the case referred to the Committee after full investigation and in possession of the facts of the case advised the physician to contest the case which he did and successfully, receiving a verdict to recover his costs.

Our attention has been called to the fact that there are certain members of the society who have annually paid the dues for the benefits accruing to members of the society in good standing but who are by reason of the circumstances that they are not engaged in the actual practice of medicine and surgery not exposed to the hazard of a suit for malpractice and are therefore receiving no commensurate advantage.

We are therefore recommending to the House of Delegates such changes in the by laws as may be necessary to excuse from the payment of the annual assessment for Medico-Legal Defense such as are not actually engaged in the practice of medicine or surgery, if they so desire.

Respectfully submitted,
J. N. JENNE,
E. A. HYATT,
W. N. BRYANT,
Committee.

RESOLUTIONS

DEATH OF CHARLES EDWIN STONE, M.D., Lynn, Mass.

Whereas, it has pleased the Almighty to remove from our midst our esteemed and beloved fellow-practitioner of Medicine, Charles Edwin Stone; be it resolved that we, The Lynn Medical Fraternity, extend to the bereaved family our sincere sympathy, in their loss of a faithful and dutiful son and brother.

Be it further resolved that we, his friends and associates, desire to here express our sentiments of appreciation of his worth, in that we have lost a staunch friend, clean-hearted and true; a manly man, benevolent, faithful and patient; a learned student of nature and of man; unassuming, yet intellectually great, with human sympathies, with broadness of mind, and unselfish to a fault.

Be it further resolved that a copy of these resolutions be spread upon the records of this Fraternity and a copy be sent to the bereaved family.

JOHN W. TRASK,
J. A. JONES,
G. H. KIRKPATRICK,
WM. L. FRASER,
Committee.

SCIENTIFIC RESEARCHES INTO THE CAUSES OF ALCOHOLISM AND INEBRIETY.

By T. D. CROTHERS, M. D. HARTFORD, CONN.

One great fact has been established by accurate laboratory and clinical research, viz., that the physiological action of alcohol on the cell and tissue is that of an anaesthetic and depressant, and not a tonic or stimulant. This has been accepted by the profession generally, and while it revolutionizes the previous theories, explains in some degree why alcohol is so fascinating.

Beyond this, there is a vast range of causes producing alcoholism and inebriety that are practically unknown. All remedial and restorative efforts are based on the theory that alcohol is the special and particular cause of all the degenerations which follow from its use.

Careful studies of individual cases show this to be untrue; also that in many instances alcohol is only a symptom. It may be a complicating drug intensifying unknown conditions that were latent before. It may be a specific poison localizing in certain organs. It is also cumulative, and associated with the most complex neuroses.

In Memorium

Albert James MacKay, M. D., died at Brightlook Hospital, St. Johnsbury, Sept. 11, 1916, following an operation for abdominal disease.

Albert J. MacKay was born in Wolf Co., Province of Quebec, Feb. 16, 1866. He came to Peacham when a boy engaging in farm work, but soon the farmer boy received an inspiration to fit himself for college. Acting immediately upon this impulse he set about the task entering Caledonia County Grammar School, having but little aid except what he could earn with his hands, but with remarkable courage and zeal he fitted here for the U. V. M. and choosing medicine as a profession entered the Medical Department, U. V. M., working his way by teaching in surrounding towns until his graduation in class of 1897. Soon after receiving his degree he settled in Peacham practicing for a time with his preceptor, Dr. Parker, and upon his death succeeded to his large practice. In 1902 he married Miss Mary C. Blair of West Barnet who with three children survives him. Not yet satisfied with all his achievements he supplemented his education and training by taking a course at New York Post Graduate School, an evidence of his great desire for progress.

"We build a ladder, by which we rise,
From lowly earth to vaulted skies;
And we mount to its summit round by round."

As a citizen Dr. MacKay took an active and abiding interest in every wholesome enterprise having for its goal the best good of town, village, church, schools and humanity in general. He served faithfully as trustee of Caledonia County Grammar School, town school director, health officer, and representative to general assembly session of 1915, when he was appointed to committees on Public Health, Insane and Education. For many years he was an active devoted member of Peacham Congregational Church and an associate member of X. C. Stevens Post, G. A. R.

Professionally he was quiet, dignified, intelligent and ethical. His manner in the sick room was assuring, impressing patients with a kindly, quiet helpfulness yet always showing his masterly resourcefulness, making him equal to all occasions.

As a practitioner he was fraternal, kind, gentlemanly and true, never shirking a duty to his colleagues.

To patients loyalty, justice, sympathy and generosity were among the gifts he bestowed and with thorough preparation coupled to a high moral purpose and nobleness of character he was equipped to serve with earnestness, energy and efficiency.

In the untimely passing beyond of our brother and true friend, Albert James MacKay, M. D., the medical fraternity of Vermont has lost a valued member. Especially will he be missed in Caledonia County Medical Society which he had served as President and in various other offices and his home town and immediate circle has met with a distinct loss where he had served his day and generation well. His habits of industry, prudence, unselfish zeal and Christian character are worthy of strict emulation.

H. A. E.

From the Council of Pharmacy and Chemistry

NEW AND NON-OFFICIAL REMEDIES.

Barium Sulphate for Roentgen Ray Work.—Barium sulphate freed from soluble barium salts. This salt passes through the system unchanged and, because of this, is used in taking Roentgen Ray pictures of the stomach and the intestines.

Barium Sulphate-Squibb for Roentgen Ray Work.—A brand complying with the standards for barium sulphate for Roentgen Ray work, N. N. R. E. R. Squibb & Sons, New York (*Jour. A. M. A.*, Oct. 7, 1916, p. 1091).

Chlorazene Tablets, 4.6 Gr.—Each tablet contains 4.6 grains chlorazene (sodium paratoluenesulphochloramine). The Abbott Laboratories, Chicago (*Jour. A. M. A.*, Oct. 21, 1916, p. 1229).

PROPAGANDA FOR REFORM.

Hydras.—The Council on Pharmacy and Chemistry reports that Hydras, sold by John Wyeth and Bro., is one of the so-called "uterine tonics," said to contain "cramp bark, helonias root, hydrastis, scutellaria, dogwood and aromatics" in unspecified amounts. While the name, taken in connection with the composition, suggests that hydrastis is an important constituent, the A. M. A. Chemical Laboratory found this drug to be present in unimportant amounts. The Council finds Hydras inadmissible to New and Non-official Remedies because its composition is semi-secret; because the recommendations on the label for its use in specified diseases, and the advertising accompanying the bottle are sure to lead to its ill-advised use by the public; because the claims made for its curative properties are exaggerated and unwarranted; because the name is misleading and because the combination of these five drugs, even if individually they were of therapeutic value, is irrational (*Jour. A. M. A.*, Oct. 7, 1916, p. 1107).

The U. S. Pharmacopoeia, IX.—The ninth revision of the U. S. Pharmacopoeia became official Sept. 1, 1916. It is a book of standards for drugs, but it is not a book of standard drugs. The pharmacopoeia includes substances which have been shown to be inert like the hypophosphites, complex and obsolete mixtures like the compound syrup of sarsaparilla, and drugs which have been tried and found wanting like saw palmetto berries. There is one great advantage in specifying U. S. P. preparations: to do so, is to invoke legal standards of identity and purity. The only way to be sure of obtaining substances of therapeutic efficiency, however, is to exercise discrimination; the pharmacopoeia is no guide to therapeutically valuable drugs.—(*Jour. A. M. A.*, Sept. 2, 1916, p. 750).

The New National Formulary.—The National Formulary, 4th edition, becomes official September 1. It is published by the American Pharmaceutical Association. The preface says frankly "The scope of the present National Formulary is the same as in previous issues, and is based on medical usage rather than on therapeutic ideals. The committee consists entirely of pharmacists, or of men with a pharmaceutical training, and it cannot presume either to judge therapeutic practice or follow any particular school of therapeutic practice. The question of the addition or deletion of any formula was judged on the basis of its use by physicians and its pharmaceutical soundness. The considerable use by physicians of any preparation was considered sufficient warrant for the inclusion of its formula in the book, and a negligible or diminishing use as justifying its exclusion." The National Formulary contains a large number of formulas for preparation which in the main are complex and superfluous. From the pharmacist's point of view, the book is a valuable one. Physicians who have a scientific training in the pharmacology of drugs will not want it; others will be better off without the temptations offered by its many irrational formulas.—(*Jour. A. M. A.*, Sept. 2, 1916, p. 764).

The Hypophosphite Fallacy.—The Council on Pharmacy and Chemistry reports that the introduction of hypophosphites into medicine was due to an erroneous and now discarded theory as to the cause of tuberculosis and the properties of the hypophosphites. After a re-

view of the literature and in view of experimental work the Council concludes that there is no warrant for the use of hypophosphites in medicine, unless it be to secure the calcium effect from calcium hypophosphite and the ammonium action of ammonium hypophosphite. The Council reviews the claims made for the following and declares them ineligible for New and Non-official Remedies: Fellows' Syrup of Hypophosphites, Fellows Medical Mfg. Co., Syrupus Roborans (Syrup Hypophosphites Comp. with Quinin, Strychnin and Manganese), Arthur Peter and Co., Schlotterbeck's Solution Hypophosphites of Lime and Soda (Liq. Hypophosphitum, Schlotterbeck's), The Schlotterbeck and Foss Co., Robinson's Hypophosphites, Robinson-Pettet Co., Eupeptic Hypophosphites, Nelson, Baker & Co., McArthur's Syrup of the Hypophosphites Comp. (Lime and Soda), The McArthur Hypophosphite Co. Though in general no therapeutic claims so far as the hypophosphites are concerned are made for the following, the Council held their use irrational and directed their omission from New and Non-official Remedies which now describes them: Borchert's Malt Olive with Hypophosphites, Maltzyme with Hypophosphites, Maltine with Hypophosphites and Maltine with Olive Oil and Hypophosphites.—(*Jour. A. M. A.*, Sept. 2, 1916, p. 760).

Pulvoids Calcylates.—The Drug Products Co., Inc., New York, markets tablets under the name "Pulvoids Calcylates 5 gr." with claims as to composition which, though vague, suggest that the product is a mixture of calcium salicylate and strontium salicylate. The Council on Pharmacy and Chemistry found that there was no evidence that a mixture of the salicylates of calcium and strontium is superior to sodium salicylate and declared Pulvoids Calcylates ineligible for New and Non-official Remedies because unwarranted therapeutic claims were made for the mixture; because the name does not describe the composition; and because the mixture is an unessential modification of an established remedy (sodium salicylate.)—(*Jour. A. M. A.*, Sept. 9, 1916, p. 827.)

Secretogen.—The Council on Pharmacy and Chemistry has reported that commercial secretin preparations examined (Secretogen and Duodenin) contained no secretin and also that secretin is inert when given by mouth. While practically admitting the correctness of the Council's findings, the manufacturer of Secretogen (The G. W. Carnrick Co.) in a letter to the Council sets forth the company's claims for secretogen on a new and altogether improbable basis. Since the arguments are purely speculative, the Council reaffirms its previous action declaring this preparation ineligible for New and non-official Remedies.—(*Jour. A. M. A.*, Sept. 9, 1916, p. 828).

Arsenobenzol and Diarsenol. — The Council on Pharmacy and Chemistry reports that it found Arsenobenzol, made by the Dermatological Research Laboratories, Philadelphia Polyclinic, Philadelphia, and Diarsenol made by the Synthetic Drug Company, Toronto, Canada, substantially identical with salvarsan in composition, and equal to salvarsan in therapeutic efficiency. The Council reports that these products have not been admitted to New and Non-official Remedies because there is a doubt as to the legality of their sale in the United States. But for this doubt as to their legal status, both products would be entirely eligible to N. N. R.—(*Jour A. M. A.*, Sept. 16, 1916, p. 879).

Sulfuryl Monal.—According to the label these "pastilles" contain "Sulfuryl (combined polysulphurets)" which "Liberates nascent sulphuretted Hydrogen." The A. M. A. Chemical Laboratory reports that the tablets had the taste of licorice extract, an odor of hydrogen sulphide and that a tablet liberated about 6 cc. hydrogen sulphide. The Council on Pharmacy and Chemistry reports that sulphides are practically ignored in modern text-books and declared Sulfuryl Monal ineligible for New and Nonoffcial Remedies because unwarranted and dangerous therapeutic claims were made for it.—(*Jour. A. M. A.*, Sept. 16, 1916, p. 894).

Bi-Taride Tablets.—These are dark brown tablets with a strong tarry odor, sold by the Germicidal Products Corporation, New York. The Council on Pharmacy and Chemistry reports that the preparation was found ineligible for New and Nonofficial Remedies because the composition of the tablets is essentially secret,

because the therapeutic claims made are exaggerated and an invitation to the public to depend on them in serious diseases and that the combination of coal tar derivatives and boric acid (said to be constituents of the tablets) is irrational.—(*Jour. A. M. A.*, Sept. 16, 1916, p. 895.)

Glyco-Thymoline and Poliomyelitis. — The Manufacturers of Glyco-Thymoline are circularizing physicians, advising dependence on Glyco-Thymoline as a preventative against poliomyelitis. A report of the Council on Pharmacy and Chemistry pointed out that this preparation is simply a weak antiseptic, so feeble that even in full strength it does not kill *Staphylococcus aureus* in four hours and is of little, if any, greater therapeutic value than sterile salt solution.—(*Jour. A. M. A.*, Sept. 16, 1916, p. 895).

Naphthalene for Automobiles.—The A. M. A. Chemical Laboratory reports that "Inajiffi" tablets are pure, or nearly pure naphthalene. The tablets are to be added to gasoline for automobiles, etc. The increase of energy produced by the addition of the tablets is probably too slight to be appreciable. Even if the addition of the small quantity advised by the dealers of "Inajiffi" did give an appreciable augmentation of energy, naphthalene might be bought in the form of moth balls (*Jour A. M. A.*, Sept. 16, 1916, p. 897).

Mark White Goiter Treatment.—The Council on Pharmacy and Chemistry reports that Mark White Goiter Serum and Mark White Iodinized Oil, submitted by the Mark White Goiter Serum Laboratories, Chicago, was not admitted to New and Non-official Remedies because the sale in interstate commerce of the "serum" has not been authorized by the Treasury Department, because the statements regarding composition are indefinite and contradictory, because the therapeutic claims were not substantiated and because the routine treatment of goiter is irrational. Mark White is a veterinarian and, in association with various physicians, has exploited his treatment, at one time called "Goiterine," from different cities. In Chicago he has been associated with Dr. Rachel Watkins (*Jour. A. M. A.*, Sept. 23, 1916, p. 967).

The Therapeutic Value of the Glycerophosphates.—In view of the very convincing evidence that the glycerophosphates do not possess the therapeutic properties attributed to them and are not superior to ordinary phosphates, the Council on Pharmacy and Chemistry examined the following proprietary glycerophosphate preparations: Tonols (Schering and Glatz) comprising Iron, Lime, Lithium, Magnesium, Manganese, Potassium, Quinine, Sodium, and Strychnine "Tonols," Duotonol Tablets, Triotonol Tablets, Quartonol Tablets, Sextonol Tablets, Phosphorcin Compound (Eimer and Amend), Robinol (John Wyeth and Bro.), Phosphoglycerate of Lime (Fougera & Co.), Elixir Glycerophosphates, Nux Vomica and Damiana (Sharp and Dohme). The Council reports that unwarranted therapeutic claims are made for all of these preparations. In addition the composition of Robinol and Elixir Glycerophosphate, Nux Vomica and Damiana is semi-secret, and Tonols, Phosphorcin Compound and Robinol bear objectionable names (*Jour. A. M. A.*, Sept. 30, 1916, p. 1033).

Kora-Konia.—Kora-Konia is a dusting powder advertised to the medical profession by the "House of Mennen." It is claimed to be indicated in the treatment of acne, dermatitis, eczema, entertrigo, etc., and is said to possess germicidal qualities. The A. M. A. Chemical Laboratory reported that the powder essentially consists of talcum and zinc stearate in about equal proportions to which small quantities of magnesium carbonate and boric acid have been added. The Council on Pharmacy and Chemistry believes that the extravagant and unwarranted therapeutic claims made for this simple dusting powder are likely to lead the public, as well as the thoughtless physician, to place unwarranted confidence in it and therefore declared Kora-Konia ineligible for New and Non-official Remedies (*Jour. A. M. A.*, Sept. 30, 1916, p. 1034).

Progress in Medical Science

In the last issue of the *Journal of Obstetrics* appears a most interesting article by Elsie McCloskey dealing with the superstitions of the Filipinos concerning the function of maternity. The article is too long to report in detail but can only be given in brief resume.

The Filipinos believe that no external eruption should be cured for if this is done the sickness is "driven in" to reappear in the internal organs (we meet Filipinos in our own practice quite frequently).

Recurrence of any illness is prevented by burning the feathers of a fowl in front of the sick person.

When a woman suffers from any disease during pregnancy it is said that she has "been smelled"—it is believed that there is an enormous animal whose sense of smell is so powerful that it readily recognizes the odor of the pregnant woman and the illness or death of the woman is caused by a weasel-like sucking in of the body odors. It is said that a pregnant woman must never stop in the doorway of a house for if she does the foetus will likewise stop at the door of the womb and fail to be delivered; she must not sleep across the grain of the wood on the floor for if she does a transverse position will develop; that the wood must not be placed butt end first in the fire for then a breech case will develop; that she must not tie a cloth about her neck for if so there will be twisting of the cord of the child, etc., etc.

To facilitate the expulsion of the placenta, a pot cover is placed at the head of the parturient; to restrain post-partum hemorrhage red silk is tied about the thumbs and toes.

During even a normal delivery the midwife makes numerous examinations and frequently changes the position of the child. For each change she receives 10 centavoes.

The most terrifying consideration for the pregnant woman is the "aswang"—a mythical creature half man and half beast. This creature prowls about at night seeking out the pregnant on whose blood he lives, and as this creature is equally at home on the land or in the air the poor woman has scant hope for escape. During the last months of pregnancy the danger is greatest as at this time the blood of the woman and her foetus is particularly attractive to the "aswang"—at this period she must sleep under a dark canopy and in a room filled the smoke to avoid this monster. It is particularly dangerous for her to go out after dark and should she do so she must wear her hair loose down her back in order to fool the "aswang" and lead it to believe that she is an unmarried girl.

During labor much massage is used, and as the hand is not powerful enough for all the pushing, pulling, pounding, pressing and squeezing that is considered essential, stout clubs are used for the purpose. These are for sale in every market place.

Delivery of the placenta is hastened by pulling on the cord and if this does not avail the placenta is left in situ until it comes away of its own accord. After delivery a stout cord is tied about the woman's waist to prevent her filling the abdomen with wind when she breathes and also to prevent the blood coming up and out of her mouth. Sutures are not required as a douche of an infusion of bayabas leaves will heal all lacerations in three days.

R. E. S.

TUBERCULOSIS NOTES

Rist calls attention to chronic coughing due to atony and sagging of the stomach. The X-ray and careful chest examination reveal the absence of pulmonary disease and the presence of gastroptosis. A suitable supporting belt often produces miraculous relief of the coughing. This condition is usually found in women. He also mentions nasal obstruction and chronic sinusitis as causes of chronic cough and susceptibility to frequent colds that are thrown off with difficulty and are often accompanied by bronchitis. Varicose veins over the lingual tonsil may be the cause of hemorrhage in such cases. He urges the general practitioner to pay especial attention to these nasal conditions while giving no less heed to the lungs. [Differential Diagnosis of Pulmonary Tuberculosis and Chronic Nasal Affections.—*E. Rist, Presse Medicale, Paris, XXIV, No.* 41.]

George D. Horton (Bacteriologist), Missouri State Poultry Experiment Station) suggests the use of the metal cylinders, in which shaving soap sticks are sold, for staining slides for tubercle bacilli. These cylinders will hold several slides at once and could be used for

either the cold or hot method of staining. The caps are practically air tight thus preventing evaporation when not in use.—*Medical Times*, August, 1916.

The Journal of the American Medical Association gives the following abstract from an article by O. Haab on Recent Research on the Cornea and Retina. Haab calls attention to a form of keratitis which he has named Buchstaben—"letter" keratitis. He encountered only seven cases in the course of eighteen years. Its detection requires illumination from the side, with an exceptionally powerful light, such as the Nenst or Osram light. The surface of the cornea shows certain linear irregularities, the epithelium projecting a trifle to form short lines which, as they meet and cross, form figures resembling the straight line letters A, W, V, or X. Small round infiltrations may be scattered along the lines, and these may be some imitation of the eye. The keratitis may subside in from one to three weeks but in some cases it returns again and again. It may entail reduction of the intra-ocular pressure or even loss of vision from the changes in the depths or on the surface. In one such case a woman of 25 had lost the use of the left eye from years of keratitis, with permanent apacity of the cornea. She had been under specialist treatment for years without avail. The right eye finally became involved. No treatment seemed to have any power to arrest the slow progress of the affection until, after nine months, as a last resort, a course of tuberculin treatment was commenced, and at one stroke the trouble was checked. The inflammation subsided, the cornea became smooth and vision improved from five-sixtieth to one-third in less than two months and finally became six-sixth. In the course of three months twenty-four injections of tuberculin have been given, and there can be no doubt that this saved the eye which was going slowly the way of its mate, in which vision has long been only one-tenth. He has had no opportunity to try tuberculin in any other case of the kind.—*Jr. A. M. A.*, Sept. 23, 1916.

Tuberculin, at times, gives very good results in treating interstial keratitis of tubercular nature.

Examination of 361 cases by Corper shows the compliment fixation test to be of value but by no means an absolute indicator of the presence or absence of tuberculosis. Only about 30 per cent of the cases that were definitely tuberculous according to clinical findings gave a positive reaction. The percentage was higher in the active than in the inactive cases. However, a definite positive reaction when coupled with other evidence of tuberculosis, makes the diagnosis certain. The test is practically never positive in nontuberculous cases. A positive reaction would therefore be of great value in differentiating chronic bronchitis, bronchiectasis, abscess, cancer, empyema, syphilis, etc. A positive test is more conclusive of the presence of tuberculosis than is a positive result from the other biological tests.— *Compliment Fixation in Tuberculosis, H. J. Corper—Journal Infectious Diseases*, Chicago, Sept. 1, 1916.

In every case of true ozema or atrophic rhinitis, examined by Wingrave, he found a bacillus very closely resembling the tubercle bacillus in morphology and staining properties. He was unable to find this bacillus in other conditions allied to ozema. Inoculation produced in animals lesions exactly like those of tuberculosis. Although he has been unable to demonstrate the same bacillus in these lesions he nevertheless holds that atrophic rhinitis is at least related to tuberculosis if it is not a form of it, and that those who have atrophic rhinitis are carriers of a germ that is probably a near relative or a variety of the tubercle bacillus.—*Journal Laryngology, Rhinology, and Otology*, London, July, 1916.

Because of the great fatality of tuberculosis in infants Jeanneret urges on the pregnant woman the necessity of arranging for the immediate removal after birth of the infant, whenever there is "open tuberculosis" in mother or any other member of the family. This segregation must be *absolute* for even the slightest and briefest exposure may result in miliary or meningeal tuberculosis. After the child reaches 20 months it may be returned to the family if proper care of the sputum is maintained. After this age the danger of rapidly fatal general tuberculosis is not very great. He urges the establishment of institutions in which the infants of the poor can be cared for during this period.

When infection has taken place he considers the energetic use of tuberculin as offering the most hope. He begins with 1-100 cc. of a 1-1000 dilution, repeats the injection once in 3 days and gradually increases the dose to one-

tenth of a 10 per cent solution, that is up to 10 m. grm. of tuberculin. He has met frequent fibril reactions but has found them of short duration. After a time the child produces enough of its own tuberculin and the injections are no longer needed. [L. Jeanneret, Prophylaxis of Tuberculous Meningitis and of Miliary Tuberculosis in Children. Archives de Médicine des Enfants, Paris, Aug., 1916. XIX, No. 8.]—*Abs. Jour. A. M. A.*, Sept. 16, 1916.

H. S. G.

News Notes

Dr. M. F. McGuire, who has been ill of typhoid fever at Heaton Hospital, Montpelier, several weeks, has been removed to his home on State Street in that city. He will not be able to resume his practice for several weeks.

Drs. J. H. Judkins and H. A. Whitney, whose offices were burned in the recent serious fire in Northfield, have located temporarily in the office of Dr. Walter H. Sisson over the store of Clough & Howe.

Dr. Alan Davidson of St. Albans spent the last two weeks of October in New York and Philadelphia. In the former city he attended the meeting and clinics of the New York and New England Association of Railway Surgeons, and in Philadelphia he attended the Clinical Congress of the Surgeons of North America and the annual convocation of the American College of Surgeons.

Dr. Arthur LaRochelle, formerly of Barre and a graduate of the Spaulding High School in the class of 1910, has been visiting his father, Theodore LaRochelle, in Barre. Dr. LaRochelle, who has been at the New York General Hospital since his graduation from college, will open an office in Springfield, Mass.

Dr. J. G. Thabault of Winooski suffered cuts on the forehead and face in an automobile accident at Chazy, N. Y., while on his way to Montreal. The accident occurred when he turned his car too much to one side of the road to avoid hitting another car. With him in the car were five other people. It is said that Dr. Thabault has a reputation for careful driving.

The marriage of Mrs. Lulu Patterson Goodwin of Lebanon, N. H., to Dr. Rollin J. Goss of Wilder took place at Lebanon, October 16th. The ceremony was performed at the home of the bride's mother, Mrs. L. S. Patterson, by the Rev. Frederick G. Chulter, pastor of the Congregational Church. Immediately following the ceremony breakfast was served. Dr. and Mrs. Goss will be at home in Wilder after December 1st.

With the return of the First Vermont Regiment from the Mexican border, Dr. Thomas J. Hagan, major in the Medical Corps, has returned to his practice in Pittsford; Dr. W. Hayes Mitchell, first lieutenant, to Shelburne, and Dr. H. W. Taylor, first lieutenant, to Brattleboro. Dr. F. A. Edmunds of Bethel, who went to the border as a captain, but was mustered out as it was found that under the regulations he could not hold the rank, came home a few weeks before the Regiment returned, intending to go back as a first lieutenant. In the meantime the regiment returned.

Vermont Medicine

The Official Organ of the Vermont State Medical Society

Vol. I, No. 12 $1.00 per Annum

Rutland, Vermont, December, 1916.

Original Papers

ORATION IN SURGERY, 103RD ANNUAL MEETING VERMONT STATE MEDICAL SOCIETY, ST. JOHNSBURY, OCTOBER 12TH AND 13TH.

The Treatment of Diabetes Mellitus

JOHN R. WILLIAMS, M.D.,
Rochester, N. Y.

The following outline of a method of study of diabetes was given in the oration on medicine and in the clinic conducted before the Vermont State Medical Society on October 13, 1916.

There is very little definite knowledge of the cause of diabetes mellitus. It is generally believed that a disturbance in the pancreatic function is the cause of the metabolic failure which makes it difficult for the body to properly utilize its food. It is also known that various conditions or pathological states accentuate or aggravate this defective metabolism. The common association of arteriosclerosis with diabetes suggests a relationship between the diseases or that some common agent is a factor in their causation. Likewise the frequent occurrence of diabetes in family strains leads to the impression that something is transmitted from parent to offspring which increases susceptibility to the disease.

In the last one hundred cases which the writer has studied and in which reliable information could be secured as to family history, forty-eight patients had one or more diabetic relatives. Of these, thirty cases were in the line of direct transmission and fifty-five occurred in the collateral relatives. Indeed, many of the collateral cases were the progeny of diabetic grandparents. Diabetes does not occur with any such frequency in the family history of patients suffering from other illnesses. In the series of one hundred control cases sick from some other cause and similarly investigated, six patients had only eight diabetic relatives. (The writer's complete investigation on this subject will be published in *The American Journal of the Medical Sciences.*) While the relationship of heredity to diabetes may be only conjectural, its common occurrence would justify the physician in carefully and frequently examining the children of diabetics, safeguarding them against over indulgence in food and infection.

When a patient presents himself for treatment, the physician must set about to gain and merit his confidence. The physician can best accomplish this by thoroughly informing himself on the subject, because nearly every diabetic sooner or later does this for himself and when he begins to learn that the limitations of his doctor are nearly as great as his own, he is likely to lose faith in

the doctor. It will no longer do to tear a slip from the book of diets issued by some proprietary medicine company and present this to the patient as a way to get well. Too many articles have appeared in the popular press and too many sanitariums are advertising for business for the diabetic to longer accept this perfunctory treatment.

The care of a case must be considered in two phases, one of observation, the other of instruction. Teaching the patient how to live, inspiring him with courage and confidence in the outcome is quite as important as are the technical examinations of his body and the manipulation of his diet. Most of the instances of failure are directly chargeable to lack of co-operation on the part of the patient due to little or no understanding of his physiological needs in not only the matter of food but in rest and exercise as well.

Before a diabetic should be dismissed from observation and control, he should not only be sugar free, but he should also know in terms of carbohydrate, protein, fat and total calories how much food his body will safely utilize. Until he can sit down at home or in a restaurant, without a diet sheet or other directions and eat, without weighing and with approximate accuracy, the foods he most needs and in their right quantities, he is not properly instructed. This is an entirely practical scheme. We have done it for two years in our clinic in Rochester and the same plan is followed by Joslin in Boston. The physician who is unwilling to spend the necessary time in informing himself on the subject and who has no interest in teaching his patients ought not to undertake the task of treating a case.

It is quite important to take a careful history before proceeding with the treatment of the diabetic. Many times physicans are called upon to see patients who have evident serious diabetes. Their examination or inquiry goes no farther, with the result that other diseases more serious than diabetes are overlooked. Two cases in point will serve as illustrations of this error. Quite recently a patient was referred to the writer in whom a severe evident diabetes had caused the significance of intractable vomiting and epigastric pain to be overlooked or misinterpreted. In this instance, the patient was suffering from cholecystitis and cholelithiasis. An operation was clearly indicated and later performed with a most satisfactory outcome. In another instance, the attending physician confined his attention to a mild glycosuria and overlooked a serious elevation of blood pressure and other striking evidence of well advanced sclerosis and nephritis. Physicians may excuse themselves when they make such errors of omission but patients are less likely to do so. The history of gastrointestinal distress occurring in diabetes very frequently suggests gall bladder inflammation with pancreatic involvement. Both the history and physical examination should be most searching on this point. A history of persistent headache with occasional dizziness accompanying diabetes suggests a kidney lesion or arteriosclerosis. This also merits careful investigation. It should ever be remembered that the serious diabetes is that which is complicated with some other disease, therefore both the history and the physical study of the case should receive the most painstaking attention of the physician.

When the physical examination is made the patient should be stripped to the waist and examined in a warm room.

The color of the skin should be noted. An uncomplicated case of severe diabetes of long standing is usually pale, the complexion presents a peculiar transparent appearance, the venules on the nose may be dilated, the eyes glistening, and the expression pinched. A fruity odor will be observed in the breath. The skin is usually dry, scaly, and less elastic than normal. The subcutaneous fat may be greatly diminished and the muscles also may be greatly wasted. In cases with a disturbed fat metabolism or in which there is lipoidemia, the skin may be tinted a very light lemon yellow. This may be observed on the face and trunk although often it can be seen only in a circular area extending around the nose and mouth. Frequently only the alae of the nose and the inside of the palms of the hands will be thus tinted. I know of no other disease presenting the characteristics thus described. The physical wasting accompanying cancer, nephritis, tuberculosis, cirrhosis of the liver, serious anemia, and other diseases all differ strikingly from severe diabetes so that the ordinary well trained medical observer ought rarely to have difficulty in detecting a severe diabetes by the physical examination alone. Mild cases are not so easy to diagnose. Oftentimes, before one can say that a patient has diabetes it is necessary to put him on a series of special diets including the administration of large quantities of sugar. At the same time, the patient's urine must be studied carefully to determine the effect of these diets. An estimation of the blood sugar level under these conditions may be of the highest importance. If a patient presents himself to a physician and a reaction for sugar is found in the urine, the quantity of sugar in a twenty-four specimen should be immediately determined, the patient eating his usual diet the food value of which should be approximately estimated. If the amount of sugar in the urine is small and the sugar in the diet is much greater, it may be assumed immediately that the case is mild in character. Indeed, if there is only a trace of reducing substance in the urine, the patient may have some other metabolic disturbance than diabetes. Patients with old chronic infections, however mild, and sometimes with acute infections may excrete small amounts of sugar in the urine which are detectable by simple procedures employed by physicians. Some individuals normally excrete small amounts of animal sugars or other substances not sugar which affect the testing solutions employed for sugar determinations as does sugar. Such cases are not uncommon. The difference between such a case and one having true diabetes is that when more and more starch or sugar is added to the diet of the diabetic there is a corresponding increase in the sugar outgo in his urine, whereas the non-diabetic with glycosuria will continue to eliminate approximately the same amount. This is a very important examination which should be made in every case of mild diabetes. Many an individual with some peculiar idiosyncrasy of metabolism or indefinite disease which has caused him to excrete small amounts of reducing substances in his urine has been condemned to a rigorous diabetic diet. The possibilities for unnecessary deprivation and serious harm are thereby wrought.

The calculation of the diet is a comparatively easy matter if one uses the simple food scale devised by Joslin and Goodall which, for the convenience of the reader, is here given.

Per cent. of Carbohydrates (Starch and Sugar) in Common Foods
Foods without Sugar: Meats, Gelatine, Eggs, Olive Oil, Butter, Tea and Coffee.

5% or Less		10%+ or —	15%+ or —	20%+ or —
Lettuce	Cauliflower	Onions	Green Peas	Potatoes
Spinach	Tomatoes	Squash	Artichokes	Shell Beans
Sauerkraut	Rhubarb	Turnip	Parsnips	Baked Beans
String Beans	Egg Plant	Carrots	Canned Lima Beans	Green Corn
Celery	Leeks	Okra		B'd Macaroni
Asparagus	Beet Greens	Beets		Boiled Rice
Cucumbers	Watercress	Mushrooms		
Brussels Sp'ts			Apples	
Sorrel	Butternuts	Lemons	Pears	Plums
Endive		Oranges	Apricots	Bananas
Unsweetened and Unspiced P'kle		Cranberries	Cherries	
		Strawberries	Currants	
Ripe Olives	Clams	Blackberries	Raspberries	Peanuts
Grape Fruit	Scallops	Gooseberries	Huckleberries	
	Fish Roe	Peaches		
		Pineapple		
6% or Less		Watermelon	Pecans	
		Musk Melon	Filberts	
Cabbage	Oysters	Brazil Nuts	Walnuts	
Radishes	Liver	Bl'k Walnuts	Pistachios	
		Pecans	Beechnuts	
Pumpkin		Filberts	Almonds	
Kohl-rabi		Hickory Nuts		

FOOD		Protein	Fat	Carbohydrate	Calories
Oatmeal	1 oz. (30 grams)	5 g.	2 g.	20 g.	115
Meat, Uncooked	" "	6	2	0	40
Meat, Cooked	" "	8	3	0	60
Bacon	" "	3	19	0	180
Salmon, Tinned	" "	6	4	0	60
Sardines	" "	7	6	0	80
Potato	" "	1	0	6	25
Cream, 40%	" "	1	12	1	120
Cream, 30%	" "	1	9	1	90
Cream, 20%	" "	1	6	1	60
Milk	" "	1	1	2	20
Bread	" "	3	0	16	80
Butter	" "	0	25	0	225
Egg—one		6	5	0	70
Brazil Nuts		5	20	2	210
Orange or Grape Fruit—one		1	0	10	40
Apple—one 4oz.		0	0	17	70
Vegetables 5-6% Groups—5 oz.		1	0	5	25
Vegetables 10% Groups—5 oz.		1	0	10	45
Broth, 6 oz.		2	0	0	10

Vegetables cooked in one water lose about 25 percent of their carbohydrate. When cooked in three waters they are practically sugar free and may be d's-regarded in calculating the food value of a diet.

1 gram protein contains 4 calories.
1 gram carbohydrate contains 4 calories.
1 gram fat contains 9 calories.
1 gram alcohol contains 7 calories.
6.25 grams protein contains 1 gram nitrogen.

1 kilogram = 2.2 pounds.
30 grams (g) or cubic centimeters (c.c) = 1 ounce.
A patient "at rest" requires 30 calories per kilogram body weight.

In roughly calculating a diet, the physician may assume that a thin slice of a five cent loaf of bread weighs one ounce. A moderately large portion of cooked oatmeal contains about one ounce of the dry oatmeal. One medium sized potato weighs about four ounces. A liberal portion of meat weighs about four ounces. The average individual eats about ten ounces of green vegetables, with an average composition about like that of the ten per cent group in the above table. A moderate user of butter eats about one-half ounce at a meal. One teaspoonful of sugar weighs about seven grams. The ordinary thin cream contains about twenty per cent of butter fat. With this information and the use of the foregoing table it is possible to roughly determine the chemistry of an ordinary diet.

What the physician must know at the outset is approximately how much the patient is eating and how much he is excreting. If the diet contains roughly two hundred and fifty grams of sugar-forming material and the urine contains only fifty grams of sugar, the case has a vastly different significance than if the figures were reversed. The finer details of dietary study can then be begun under conditions which will permit of accuracy. The study of sugar metabolism in a case is of no greater importance than is that of the protein and fat. The question of acidosis must also claim a large share of the physician's attention.

Before proceeding to a discussion of dietary procedures it will be well to consider first the methods of study which are within the means of the general practitioner. Sugar can best be determined qualitatively by the Stanley R. Benedict method. The formula of this solution and its application are given on page 348. Urine sugar can be approximately estimated by the use of the well known yeast method in a fermentation tube. If the physician sees many cases, it will pay him to buy a small polariscope, with which in a few seconds he can determine the percentage of sugar fairly accurately. If the physician has a laboratory or a liking for chemical work, the quantitative method of Benedict is recommended as being the most accurate clinical method available. Acidosis may be roughly estimated by the use of the ferric chloride method. Either the tincture of ferric chloride may be used or a watery solution may be prepared from the ordinary ferric chloride. A lump about the size of a hickory nut dissolved in four ounces of water makes a solution of about the right strength. If some of this is poured into a test tube to the depth of one-half inch and a few drops of urine added, in the presence of diacetic acid the solution will turn a reddish brown color, the intensity of which will vary with the amount of acidosis present. Phosphates in the urine may be precipitated in a gray cloud but this has no clinical meaning. The only practical quantitative method of measuring acidosis for the general practitioner is the estimation of the amount of carbon dioxide in the lung air of the patient. The principle of that method briefly is based on the following facts. There are two types of acid in the body: (1) the non-volatile acids such as sulphuric, phosphoric and nitrogenous acids or their salts which results from the breaking down of protein foods or tissues, and the (2) volatile acid, carbon dioxide, which results from the metabolism of sugars and fats. The total amount

of acid in the blood within very narrow limits is a fixed quantity. The acid content of the body cannot be increased without precipitating coma and death. If the non-volatile acids of the body are increased and the total quantity remains constant, it follows that the volatile acid or carbon dioxide content of the blood must diminish in amount or the patient will die. The carbon dioxide content of the arterial blood and that of the alveolar air of the lung for physio-chemical reasons are approximately the same. It is comparatively easy and simple to measure the carbon-dioxide content of the lung air, therefore this is by far the easiest and most reliable method of measuring acidosis. This method was recently described in detail by the writer.*

The diabetic patient can best be cared for in an institution equipped to do metabolic work, but obviously there are thousands of cases who cannot or will not go to such institutions, therefore the physician must care for such cases in the home. If the home plan is to be followed, the patient must be willing to give up his employment for several days or even weeks and devote himself religiously to the study and care of himself. No progress can be made and only discouragement and failure will result if the patient attempts to work and carry on the treatment in a haphazard way.

While the general scheme of treating diabetes is the same in all cases, the variations in each case make it necessary to more or less individualize the treatment. If the patient on a diet liberal in starch, protein and fat excretes a comparatively small amount of sugar in his urine and has no evidence of acidosis, he should be gotten sugar free at once by giving him a prolonged fast. If, however, a comparatively large amount of sugar is present in the urine on a more or less restricted diet and if acidosis be present, the treatment should not begin with a fast. In such a case, the food should be withdrawn slowly. In the beginning, all fat and sugar should be omitted and the diet should consist of liberal amounts of vegetables from the five and ten per cent groups, together with meat, eggs, and clear broth. It is quite important to give such cases plenty of fluid and broth is a most excellent way to accomplish this purpose. Gradually the meat and eggs should be withdrawn and then the green vegetables. It may require two weeks to successfully carry out this stage of the treatment during which time the amount of sugar in the urine and the evidence of acidosis will gradually decline or disappear so that a day of two of complete fasting will clear up all evidences of both sugar and acid. The feeding of the patient may then be begun as with a mild case except that in the mild cases larger amounts of food may be given and the quantities increased more rapidly. The food given should be of the character withdrawn but in the reverse order. That is to say, on the first day, five or ten ounces of raw or cooked vegetables from the five and six per cent groups may be given together with eighteen ounces of broth. On the second day, this may be cautiously increased. On the third day, three eggs or four ounces of meat may be added. On the fifth day, both meat and eggs may be given, meanwhile cautiously increasing the green vegetables. On the sixth day, it may be well to give

*Clinical Methods of Measuring Acidosis, *The Medical Record*, August 5, 1916.

the patient another complete fast day, or at the most about one-third of the food eaten on the previous day. Fat may now be added in the form of butter beginning with one-half ounce and increasing this not oftener than every three or four days.

The net weight of the patient should be determined at the beginning of the treatment and obtained every few days thereafter. The average individual needs about fifteen calories of fuel in the form of food for each pound of body weight, so that an individual weighing one hundred pounds would need about fifteen hundred calories. Very few diabetics are able to take care of their total caloric needs until they have been under this resting plan of treatment for some time which may be a matter of weeks. Most diabetics do better if they keep close to their minimum caloric needs. The effect of this is to keep the patient thin. Diabetics who gain much in weight are very likely to be harder to keep sugar free. While the patient is undergoing treatment, he should take plenty of exercise. When he is sugar free, exercise seems to increase his power of metabolism. When he is not sugar and acid free, exercise works positive harm. Severe diabetics may be able to tolerate very little carbohydrate food. To them it may be desirable to give alcohol in the form of whiskey. The whiskey, however, should first be tested for sugar. Many whiskeys, particularly blended whiskeys, contain sugar. Pure grain alcohol may be used instead, giving one-half to one ounce of the latter daily. In the presence of acidosis, it may be desirable to give soda bicarbonate in daily quantities of from one-half to three ounces. Vinegar sometimes contains sugar and should be tested before use.

If the patient is not easily maintained sugar free, it may be that he has an intolerance for fat or protein. This can readily be determined by excluding first one and then the other of these foods from the diet for periods of at least one week. Such intolerance is usually only temporary and disappears after periods of proper resting. The process of getting and keeping a severe diabetic well is one of continual metabolic juggling, in which under proper tutelage the patient will soon become adept. If the facts of his diet and tests are recorded daily in a book kept by the patient, he soon will learn the necessary procedures and will give his support and co-operation to whatever effort is made to get him well. If a patient does not do well after the physician has conscientiously tried the foregoing plan, the aid of some institution equipped for metabolic work should be sought. It is little short of reprehensible to permit a patient suffering from diabetes to die without giving him the opportunity for recovery which can now be had in many hospitals in this country. Very few uncomplicated cases of diabetes, no matter how severe or how young, fail to yield to proper treatment. How long they can be kept alive is still problematical because many severe cases made sugar and acid free three years ago when the present plan of treatment was instituted are still well, although living more or less restricted lives.

In view of the growing importance of metabolic work, it would seem to the writer that some physician in every community should devote his attention to the study of pathological chemistry and the diseases which disturb the metabol-

ism of the body. The need of men thus trained is evident when it is considered that at least one individual out of every two hundred in this country has or will have diabetes and an even greater proportion has or will have nephritis. To summarize the thoughts expressed in this paper

(1) The liability to diabetes is undoubtedly transmitted from parent to offspring.

(2) Infections seriously lower the metabolic powers of diabetics, accordingly they should be carefully safeguarded against all acute infectious diseases.

(3) Treatment partakes of two phases, observation and instruction, and these are of equal importance. Treatment will fail unless the patient understands the reasons therefor and can apply the methods with facility.

(4) The character of the diabetes and the association of complications therewith should be carefully investigated, because the complication may be more serious than the diabetes.

(5) Cases which are difficult to make or maintain sugar and acid free should be sent to institutions equipped to make metabolic studies.

(6) There is a growing need in every community for physicians trained to make metabolic studies.

(7) General directions for the study and care of a case of diabetes are here given.

FORMULA AND DIRECTIONS FOR THE BENEDICT TEST.

Copper sulphate (pure crystallized), 17.3 grams or cc.

Sodium or potassium citrate, 173.0 grams or cc.

‡Sodium carbonate (crystallized), 200.0 grams or cc.

Distilled water to make, 1000.00 grams or cc.

The citrate and carbonate are dissolved together (with the aid of heat) in about 700 cc. of water. The mixture is then poured (through a filter) into a larger breaker or casserole. The copper sulphate (which should be dissolved separately in about 100 cc. of water) is then poured slowly into the first solution, with constant stirring. The mixture is then cooled and diluted to one liter. This solution keeps indefinitely.

In testing the urine for sugar, about 5 cc. of the reagent are poured into a clean test tube and 8 to 10 drops of the suspected urine added. The test tube may now be placed in a small metal cup containing sufficient water for the purpose and boiled on the family stove or gas range for four minutes. If sugar is present, the entire body of the fluid will be filled with a precipitate which may be green, yellow or red. If a very slight amount of sugar is present, the reaction will take place only after the solution has cooled.

‡One-half the weight of the anhydrous salt may be used.

WHAT SHALL WE FEED THE SICK?

CLINTON J. RUMRILL, M. D.,
Randolph, Vt.

Read before the Annual Meeting of the Vermont State Medical Society October 12, 1916.

Gentlemen:—How often are we asked "What shall we feed the patient, Doctor?" How often, also, are we apt to leave the matter of the food for our patients to the relative, or nurse, to use their judgment as to the amount of and kind of food to be given through the

illness. This we do either because we are pressed for time, or, what is more likely, we have not seen the great importance of knowing that our patients have a proper diet for their condition, right in quality, quantity, in its digestion, in its absorption and right for that patient's power of elimination of waste products.

Since my earliest work in the practice of medicine I have been impressed with the lack of instruction in dietetics for health and disease, as taught in our schools for doctors and nurses, and, also, in text-books and medical journals. We are trained to be practitioners of medicine, skilled in the prophylaxis of disease, in hygiene, in the recognition of the various diseases to which man is heir and in the treatment of these pathological conditions in everything but the dietetics to be applied. Our books tell us to feed sparingly or abundantly, failing absolutely to state definitely what they mean by such terms.

Through a long process of development the human race has come to a point that it must have a mixed diet, chosen, according to its needs, from both the animal and vegetable foods. Our bodies contain some twenty chemical elements the deprivation of any one of which for a long time will produce starvation and death. Foods must contain these elements in usable forms. The blood picks up and carries to all parts of the body the portions of the food needed there. Foods are classified as Proteid, Carbohydrates, Fats, Water and Mineral Salts, and vary as to their digestibility, flavor, odor, etc., all of which has to be considered, both in health and disease.

It has been worked out that we need, according to age and work we do, food that will produce energy as follows:

Man at rest in bed 2000 calories.

Man at light work, 2500 to 2800 calories.

Man at moderate work, 3000 to 3500 calories.

Man at hard work, 4000 to 5000 calories.

Woman at light work, 2400 to 2800 calories.

Woman at hard work, 2800 to 3000 calories.

Child from 2 to 6 years, 1200 to 1800 calories.

Child from 6 to 15 years, 1800 to 2500 calories.

Aged man or woman, 1600 to 2000 calories.

These are for conditions of health.

Proteids yield per gram (15 grains) 4 calories of energy; Carbohydrates, 4 calories; Fats, 9 calories.

Knowing the energy required daily and, from tables that have been computed, being able to learn the energy of the various foods, we can, if we take the trouble, arrange intelligently a diet for any condition, theoretically. For instance, 1 lb. bacon yields 2600 calories; 1 lb. sirloin steak, 950 calories; 1 loaf white bread, 881 calories; 1 quart milk, 675 calories; 1 medium sized potato, 83 calories and 1 egg, 60 calories, etc.

Diets are spoken of as

Soft Diet, as: Cereals, soft eggs, milk toast, custards, starchy puddings, tea, coffee, cocoa and milk.

Soft Solid Diet, as: Soft toast, crackers in milk or broth, jellies of all kinds, ice cream, soft puddings, liquids of all kinds, strained soups; no meats, no potatoes, no vegetables.

Milk Diet, as: 8 oz. every two to four hours.

Light Diet:

Breakfast:—Oranges, coffee with cream and sugar, milk, cream of wheat, soft cooked eggs, toast.

Dinner:—Tea and milk, soup, crackers, bread and butter, baked potato and some light pudding.

Supper:—Tea, milk, bread and butter, steamed rice, canned peaches, cake and jelly.

Thus we can vary our diets as needed and always be able to ascertain the energy value.

We are accustomed to think of the proteids and fats as belonging to the animal foods and the sugars and starches to the vegetable. This is not true, all the elements being found in both. Meat, with its attractive odors and flavors that stimulate the appetite and the flow of digestive juices, having, as it does, nearly the composition of our bodies, containing, besides the proteids, much fat and mineral salts, makes in many ways an ideal food. But meat is not a perfect food. To eat enough to furnish repairs for the body wastes and the energy for our work would make the proteid element far too large, thus irritating the kidneys, flooding the system with poisons and leading to ill effects in later life. Milk is a more perfect food than meat, containing proteids, carbohydrates, fats and mineral salts in good proportion, but is too bulky because of the large amount of water in it. Eggs are less perfect than milk, but easily digested and assimilated. Albumin is the thing that builds, hence, the place for animal foods is in the growing child, in convalescence from wasting diseases, in pregnancy and lactation, when the amount of proteids required lies between fifty and one hundred grams daily, or about one-sixth of a pound of ordinary beef steak.

As we find some carbohydrates in the animal world so we find some albumin in the vegetables, but we think of vegetables furnishing mostly starches and sugars. It has been said that albumins are body builders, fats heat producers and carbohydrates give us energy for work. This is probably true to a certain extent but, if obliged to do so, we can live for a time and work on a diet poor in one or the other of these kinds of food. We should, however, keep our proteids in a proper proportion and increase or decrease the carbohydrates and fats according to needs, bearing in mind the caloric energy demanded by age or work. It is one of our faults that we endeavor to work on a diet rich in meats and poor in fats and carbohydrates. From a purely economical standpoint it is bad: 1 lb. wheat flour costing around 8 cents and giving a caloric value of 6800 can be equalled by meat at a cost of $1.50 to $2.00. The waste from albumins is thrown off in the form of urea and is excreted by the kidneys, while the waste from the fats and sugars consists of water and carbonic acid gas, given off easily by the lungs and through the skin and kidneys. Workers could to advantage use less animal food and more rice, macaroni, wheat, bread and sugar. By experiments at Yale it was found that students and nurses on rich meat, or albuminous, diet and a poor carbohydrate diet would soon tucker out on being put to hard muscular work while, with a diet

rich in carbohydrates and fats and poor in albumins, they could endure very much longer, for instance, could sit down on the heels and get up only from fifty to less than three hundred times on an albuminous diet while, on the meat poor and carbohydrate rich diet some could exceed fifteen hundred times.

The vegetables, especially beans and peas, are apt to form uric acid and purin bodies and to require much work on the part of the intestines and stomach, too much for many, still, with care in their selection, this can be prevented and the urine made alkaline. A free diet of potatoes will do this. A diet rich in albumins will cause very acid urine, as often happens in the diets given for diabetes. This can be regulated by adding fruits containing large amounts of mineral salts. Thus such fruits as apples, cherries, strawberries and grapes, grape-fruit and lemons, containing acids that finally appear in the urine as carbonates can be used in gout and rheumatism and arterio-sclerosis, serving, also, as they do to cause free evacuation of the bowel. Aged people should live on vegetables, milk and eggs. A strict vegetarian diet should be followed by no one. It leads to an under-fed condition, hyperchlorhydria and thereby to lessened resistance to infections. Meat diets on the other hand make us feel logy and sleepy and bring on nervous and renal diseases.

Three-fourths of our food is animal and one-fourth vegetable. In consequence, our excretory organs are overworked, our food expense greatly increased and, it is estimated, more than one-half of our diseases in later life are produced by this excessive animal diet. We should decrease the proteid and increase the vegetable foods with the result of doing our work easier and lessening such diseases as arterio-sclerosis, nephritis, and degenerations in the nervous system. What we want is a nice balance in our food, just as much nitrogenous intake as is thrown out by the body in a given time; while we can increase almost at will the amount of carbohydrates, till we get the required yield of energy, the excretion from these being carbon dioxid and water and causing no special disturbance anywhere.

One thing we must notice, nitrogen cannot be stored up by the body as can both starches and fats, except up to the point attained in full health, and in wasting diseases like tuberculosis, it is used up very fast. This nitrogenous loss can be made smaller by supplying carbohydrates and fats freely.

Let us now turn to diet in disease. The object of food during any period of disease is to keep the patient's powers to fight the invading organisms in as good a condition as we can and to hold the body weight up to as near normal as possible, in order that the convalescence may be rapid. Short illness needs no special attention to foods, but, in long cases the diet may be the thing that will bring ultimate recovery. The loss in weight in disease is not because of fat loss only. The nitrogenous loss is fully as great. To prevent this we find the free supply of starches, sugars and fats the best way. These latter are burned in the body, giving energy to wage the battle forced upon it.

The best food in disease is milk, in

its natural state or modified by the addition of something to make it palatable and proper for the case. It can be made richer by adding cream or sugar of milk, or lighter by dilution with limewater, soda water or coffee, one to two of milk. Next to milk comes broths, well cooked gruels, and, later, soft cooked eggs, toast, etc. All the while give drinks such as grape juice, orangeade and water, freely, adding egg-albumin, cream or sugar of milk, if needed. They are valuable in flushing the excretory organs. Food must please the patient in its appearance, by its odors, and by choosing the best time for it. The best time in fever patients is when the temperature is lowest and when the patient is rested and not nervously stirred up.

We know how likely are such diseases as tuberculosis and other constitutional diseases to come upon us when weakened by long illness, consequently, it behooves us to see to it that our patients are quickly brought up to their normal state of health. The appetite must be stimulated by pleasant surroundings, good air and proper medication, for the digestive juices are thereby increased and more food handled by them, but care lest the organs be overworked must be taken.

Fever as a rule weakens or stops digestion of solid foods and as we are trying to keep the nutrition as high as possible, we substitute liquids and perhaps semi-solids. To aid in elimination fluids in abundance are demanded. Gruels alone will not do as the proteids in it are too small. Gruels with milk or eggs or meat broths will, in the right quantity, meet the requirements. As an adult lying in bed needs 2000 calories of energy, in fever and diseased conditions it will take more than 2000, because disease is adding work to be done. A cup of milk has a caloric value of 169, an egg 60, a tablespoonful of cream about 40, and a quarter pound of beef 240 calories. To get milk sufficient it will take fourteen glasses a day, while with beef it will require one and one-fourth pounds. In acute illness it is impossible to feed up to this standard, but it must be done in long or in chronic cases.

It is not my purpose in this paper to give exact diets in all the various diseases of mankind, or even in a few of them, but rather to show the reasons for care in the matter of food in disease, that we may wield all the weapons of defence when bacterial enemies beset us, that we may be not practitioners of medicines only, but dieticians also. Scales of food values can be obtained at the Experiment Station, Agricultural Department, Washington, D. C. Knowing these values and the body needs, it is possible to proceed on safe lines when attending the sick. Good medicines and poor dietetics will oftener fail to save life than will good food and little medicines.

We are on the right road. The profession is waking up to the needs of those suffering with disease, and is just beginning to understand that the body is a delicately balanced chemical laboratory, in which food is a large part of the chemicals. Dietetics is a coming science and the future is bound to see soon great results in the hitherto neglected dietetic treatment of disease.

DISCUSSION

Dr. Upton, who was to lead the discussion, was not present.

(Dr. Wood)—I am surprised that a paper of such importance should not awake some comment. I was very much interested in the paper, very glad to hear it, and it is one of the important things that we ought to give attention to. The only thing I have to offer is a quotation from a lecture which I listened to in New York by Dr. Thompson, who was a professor of therapeutics. He made this statement, which is always applicable, and I have found has served me many a time when I did not pay strict attention to the rules laid down by the authorities, and his statement was this: Remember the palate is a judge from whose opinion there is no appeal. That has been something of a guide to me in my feeding of the sick, and he explained that further by saying something of this kind, that he meant especially in convalescence and in those conditions of a chronic nature where the patient is sick some time, and as an illustration, he brought up this. He says, "Now you will find that a large number of the laity say you must eat oatmeal to give you strength. It is an excellent part of the diet. But if the patient dislikes oatmeal and turns against it, it is not only not a good article of diet, but a very bad one," and as a further illustration he brought up this fact, that when we sit down at a table and the viands are such as shall make our mouths water, and we eat those viands, the digestion is good, and the assimilation is good, and it does a person good, but if we sit at a table where the viands are repellent and there is no response of the nervous system which shall make our mouths water, then that article of diet is not good for the one for whom it was ordered.

NEW HEAD FOR FRANK S. BETZ CO.

Mr. Louis R. Curtis, Formerly of St. Luke's Hospital, Elected President of well known Surgical Instrument House.

Considerable interest has been aroused in medical circles by the announcement of the election of Mr. Louis R. Curtis, for 18 years Superintendent and Secretary of St. Luke's Hospital, Chicago, as president of that Institution.

Mr. Curtis was born in 1865 in Philadelphia. He obtained his college training at Stevens, graduating as Mechanical Engineer. In 1889 he entered the hospital field as Assistant Superintendent of the New York Hospital. During that period he attended medical college, not with an idea of practicing, but to better fit himself for his hospital work. From the New York Hospital, Mr. Curtis went to the General Hospital of Elizabeth, New Jersey, staying there for about one and one-half years. From there he came to St. Luke's Hospital, Chicago, as Superintendent and has been the dominating figure in that Institution, both as Superintendent and Secretary, until recently, and is now Vice-President in charge of the operation of the Institution. During the last years Mr. Curtis has also been prominent as a consulting engineer, especially among hospitals, and has introduced many advanced and successful ideas in hospital construction and organization. His wide experience among hospitals and medical men, coupled with his technical training, makes him peculiarly well fitted for his new position.

Mr. Frank S. Betz, under whose control the concern bearing his name assumed its present proportions, will continue with the Company as Chairman of the Board of Directors and give the organization the benefits of his long experience and training. His many and diversified interests are given as reasons for his retiring as active head of the Company.

Vermont Medicine

The Official Organ of the Vermont State Medical Society.

Conducted by the Publication Committee.

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All business communications, including subscriptions, are to be addressed to Dr. Hamilton; other communications are to be sent to Dr. Chisholm.

The Committee assumes responsibility for the opinions expressed in the Editorial columns alone.

Rutland, Vt., December, 1916.

Editorials

THE TREATMENT OF INFANTILE PARALYTICS.

The active stage of Infantile Paralysis has passed and the immediate menace is for the time withdrawn. We shall have no more cases probably until next summer. But the passive or secondary stage, that of removing so far as possible the disabilities that afflict the children whose lives were spared but whose activity and usefulness are permanently threatened, deserves our consideration. The solution of this problem is different with us from that which it finds in more populous communities. Hospital and dispensary treatment, district nurses and a body of trained specialists are available in New York City, but where as in Vermont the cases are scattered widely, there can be no central or organized effort for their treatment, and their care must remain as a rule in the hands of the attending physicians. So far from being a disadvantage there are certain features of our own case which promise at least as good results as can be attained elsewhere, if our physicians will conscientiously and skillfully respond to the demand upon them. Moreover, it is impossible to collect funds by private subscription or by legislative action which could be effectively administered in our State. In New York City, the first of the month saw a fund of $72,500 privately subscribed for use in that city, and the committee in charge expects to raise $250,000 to carry the work along during the winter. We, on the other hand, must depend on the individual skill and devotion of the Vermont physicians to carry on the same work here.

The difference is less one of method than of application. The underlying principle does not vary nor is it new. As the brain has subsidiary motor centers which can be brought by training into active service when a main motor center is destroyed, as is so often observed in cases of hemiplegic aphasia, so when in the cord certain motor centers are destroyed by a localized myelitis, there exist other subordinate centers which come to replace those that are lost. The important thing is to bring these reserves into action before the affected muscles become atrophied by non-use. In many, perhaps in all, cases of paralysis there remains for a

long time a latent power in the muscles that can be brought from the potential to the actual condition. In a normal state of nerve-control any purposed movement, representing an idea, is accomplished by the action of a group of muscles under an impulse from the motor center which presides over such movement. No muscle can normally act alone and yet single muscles can be paralyzed. Single muscles must then have their own motor centers which centers can be educated into action, by passive movements plus the effort of the will, to a concerted movement in which the idea is reproduced. Passive movements when intelligently carried out help to group these scattered centers, and when assisted by electricity, massage and vibration, will restore the contractility and function of the muscle group acted upon. For it is true, as Royce remarks, that muscles that have once acted together may be more easily restored to concerted action.

These cases may be grouped according to the degree of muscular contractility. We must acknowledge that some cases prove to be incapable of help. There has been too widespread destruction of motor centers. But that is only ascertained to be the case when prolonged treatment fails to elicit or develop any contractility whatever. This class is not hopeless at the beginning but at the end of treatment. Striking results sometimes come from routine treatment in seemingly hopeless cases. In many of them and in all of a less degree, passive movements will be of benefit provided that the co-operation of the patient is secured. He must be encouraged to add his own effort toward muscle action. This is the only bridge by which passive motion can ascend to volitional action. In many cases there is found some amount of will-control. These may be confidently expected to show improvement. In some children there exists sufficient muscle power to overcome slight resistance. These cases should be carefully trained to overcome graduated resistance and in them as well as in all cases where there is any degree of volitional movement the outlook is good if treatment be instituted early and carried out with assiduity.

We have no need to take up the different muscle groups and specify the appropriate movements required for each group, since the work has been already well done, and we will merely refer our readers to a little monograph recently published by Ernest Gregory of 126 Massachusetts avenue, Boston, where there is a schedule of exercises summarizing and tabulating very completely the method in use for the relief of these cases by Dr. Lovett of Harvard, who has made an especial study of the development of muscle groups in paralyzed infants. The author of the monograph is W. G. Wright, who has been for some years Dr. Lovett's assistant, and its title is *Muscle Training in the Treatment of Infantile Paralysis.* This little pamphlet will be found of real service to any physician who is confronted with the care of one of these unfortunate children.

THE LAST HOPE

The subdivision of medicine into specialties is of course not only legitimate but necessary, following as it does a perfectly natural development without which progress would be impeded. One often wonders, however, whether the matter is not over developed. The old story of the physician referring a patient to a colleague in another street because the injury presented was of the index finger whereas his specialty was injuries of the middle finger, is well known. At a banquet given some little time ago to a convocation of physicians, one of the after-dinner speakers in commenting on the development of unnecessary specialties remarked that the only part of the body which had not been removed from private practice and erected into a specialty was the umbilicus. At this point a voice was heard in the audience, "You forget the naval surgeons!"

The pun was prophetic. This ultimate domain is now at last invaded. This last refuge thrown open to specialism. The citadel of hope has capitulated. Henceforth there can be no general medicine, but only an aggregation of specialties. This is not a fantastic illusion. Even without this last blow the fact was ineludible, since if every part of the body except the umbilicus were removed from the field of general medicine, the umbilicus would itself become a specialty. Consequently the publication of a work on "The Diseases of the Umbilicus" is of significance mainly as a recognition of a fact already accomplished. This book we have not the heart to review. The blow is too recent and too severe. When Niobe held in her arms the lifeless body of her last daughter, slain by the arrows of Apollo, she was in no condition to write a biography of her. She was not a critic but a mourner.

This book, we are sorry to say, was written by Dr. Thomas S. Cullen of London and, we regret to announce, was actually published by Saunders of Philadelphia and, we are ashamed to confess, may be purchased for the sum of $7.50.

LIFE INSURANCE AND ALCOHOL.

An interesting analysis of the experience of American life insurance societies in respect to the mortality among abstainers from alcohol, temperate users and moderate users is presented in the current bulletin of the city of New York health department. Dividing the policy holders into three classes according to whether they are total abstainers, temperate users or moderate but habitual users of alcohol, it is shown that the mortality of the first class is about 15 per cent. less than that of the second, and about 25 per cent. less than that of the third. This much-diminished mortality among total abstainers as compared with nonabstainers is marked even when the general section of a company's policyholders, that is, the nonabstainers, presents a mortality experience which is favorable as compared with that of other companies. For example, in the case of one such company in 1906-1910, the mortality in the abstainers' section was 40 per cent. less than that in the general section, and in the years 1911-1915, 35 per cent. less. Results are given of investigations into the subsequent history of those who have at one time drunk to excess and of those who have undergone an alcohol cure. In neither case is the risk a good one from the insurance point of view. The importance of these statistics is derived from the fact that they have not been collected for controversial purposes by parties holding a brief against alcohol, but are the figures by which commercial organizations, whose interest in the matter is purely financial, are guided in fixing premiums. While there can be no doubt left in the mind of any one who reads this paper that even the moderate use of alcohol shortens life, the writer of it remarks that the relatively low mortality among abstainers is not solely attributable to abstinence from alcohol, but it is due to "temperance in all things and total abstinence from alcohol."—*Journal of the American Medical Association.*

Secretary's Page

Wm. G. Ricker, M.D., St. Johnsbury, Secretary.

The Bennington County Medical Society held its annual meeting in Bennington, October 25, 1916.

Dr. E. B. Daley of Bennington was admitted to membership.

The following officers were elected for the year 1917:

Pres. Dr. H. S. Goodall, Bennington, Vt.

Vice-Pres. Dr. L. M. Kelley, Manchester Center, Vt.

Secy. and Treas. Dr. Lucretius H. Ross, Bennington, Vt.

Dr. E. W. Becker, Troy, N. Y., read a paper on "Adhesive Pericarditis." The discussion of this paper was opened by H. C. Gardner of Troy, N. Y.

Dr. W. T. Shields, Troy, N. Y., read a paper on "Infective Arthritis."

Windsor County: The last meeting of the Windsor County Medical Society was held in Woodstock, September 23, 1916.

Dr. C. H. Beecher of Burlington read a paper on the "Management of Diabetes."

The officers elected for the ensuing year were as follows:

Pres. Dr. A. L. Patch, Windsor, Vt.

Vice-Pres. Dr. O. V. Greene, Bethel, Vt.

Sec. and Treas. Dr. D. S. Drake, White River Jct., Vt.

Censor, Dr. T. F. Gartland, White River Jct., Vt.

Caledonia County: The last meeting of the Caledonia County Medical Society was held December 6, 1916.

Dr. J. A. Turnbull of Boston gave an extended and detailed talk on "Anaphylaxis with special references to Disturbances of the Respiratory Tract." He discussed the principles and facts of Anaphylaxis and sensitization to the different proteins, and following that gave a resume of the work which he is carrying on now at the Massachusetts General Hospital in testing out the sensitiveness of different individuals suffering from Hay Fever and Asthma symptoms to the different proteins. Many cases were cited and the result of proper preventive treatment given.

Dr. R. H. Burke of St. Johnsbury, Vt., and Dr. A. B. Woodman of Wells River were elected members of the society.

Dr. A. L. Leonard of Lyndonville was elected Censor to fill the vacancy caused by the death of Dr. A. H. Mackay of Peacham.

Your Secretary wishes to call the attention of not only all county officers but also the men in the various towns to the Post Graduate Study Course issued by the American Medical Association in the form of an eighty page Bulletin. Ten months of study are laid out in this course as follows:

First Month: Diseases of the Heart.

Second Month. Infection, Immunity and Serum Therapy.

Third Month: Diseases due to Animal Parasites.

Fourth Month: Diseases of the Bones and Joints.

Fifth Month: Diseases of the Genito-Urinary Tract.

Sixth Month: Surgery of the Stomach and Intestine.

Seventh Month: Normal and Pathologic Labor.

Eighth Month: Diseases of the Spinal Cord and Nerves.

Ninth Month: Mental Diseases.

Tenth Month: Diseases of the Ear.

It is not expected nor even suggested that any group of men will cover this entire course in one year, but if the men living conveniently near to each other in any community would take up the course even one month and carry it out, much good might be done. Several years ago the writer was one of five men who followed a similar course for four months and the incentive of being forced to state accurately the facts in regard to any different organ with its diseases and treatment certainly proves a stimulus to any one who has not attempted it, while the discussion and exchange of ideas proves equally valuable.

The Presidents and Secretaries of each County Society and the State Councillors already have a copy of this Bulletin, but request will bring it to any one else. "The Post Graduate Study Course Bulletin" may be obtained by writing to the American Medical Association, 535 North Dearborn Street, Chicago, without charge so long as the supply lasts.

It being so difficult to hold large Medical Meetings in the winter and ask men to come any great distance from adjoining towns, that the Secretary believes that the work of the County Society can be increased by local groups of men if no more than even three to five in number would take up this work during the next three or four months.

From the Council of Pharmacy and Chemistry

During November the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Nonofficial Remedies:

H. K. Mulford Company:
- Mercurialized Serum-Mulford, No. 5-A and 5-B.
- Mercurialized Serum-Mulford, No. 6-A and 6-B.

Swan-Myers Company:
- Swan's Bacillus Bulgaricus.

NEW AND NONOFFICIAL REMEDIES

Swan's Bacillus Bulgaricus.—A pure culture in tubes of the *Bacillus bulgaricus*. It is designed for internal administration and for direct application to body cavities, abscesses and wounds. The culture is supplied in boxes of twelve tubes. The tubes must be kept in a cool place and must not be used after the date stamped on the package. Swan-Myers Company, Indianapolis, Ind. (*Jour. A. M. A.*, Nov. 25, 1916, p. 1601.)

PROPAGANDA FOR REFORM

Patent Medicines Prosecuted under the Food and Drugs Act.—The following information was brought out in connection with prosecutions by the federal authorites under that portion of the Food and Drugs Act which provides penalties against misleading, false and unwarranted therapeutic claims: Rayway's Ready Relief was claimed to relieve rheumatism, sore throat, pleurisy, pneumonia and other conditions. The government chemists found the preparation to be a hydro-alcoholic solution of oleoresin of capsicum, camphor and ammonia. Ingham's Vegetable Expectorant Nervine Pain Extractor was found to contain alcohol 86 per cent., opium alkaloids, camphor, capsicum and vegetable extractive matter. It was claimed that this morphine mixture was not only safe and harmless, but positively beneficial when given to teething children. Tetterine was said

to be a marvelous remedy for tetter, eczema, etc. Maignen Antiseptic Powder according to the government chemists is composed essentially of calcium carbonate, borax, aluminum sulphate and sodium carbonate. Among other things the exploiters of this powder, which at one time was advertised to the medical profession, tried to persuade the public that the preparation would "sterilize" the stomach, throat, nose, lungs, etc. Green Mountain Oil or Magic Pain Destroyer was found to consist essentially of 95 per cent. linseed oil, with oil of sassafras, oil of thuja, and oil of turpentine, with possibly small amounts of camphor. According to the claims made on the trade package, this stuff was said to be "A Remedy for Diphtheria, Croup, Deafness and Sore Eyes, Rheumatic Pains, Stiff Joints, Pains in the Back" and many other ailments. Mrs. Joe Person's Remedy was found to be a slightly sweetened water-alcohol solution of vegetable drugs with a minute trace of alkaloids and the presence of podophyllin and sarsaparilla indicated. The preparation was claimed to cure such things as "blood poison," eczema, malaria and pellagra. Tutt's Pills were found to consist mainly of sugar, aloes, starch and calomel. The nostrum was sold under claims to the effect that it was "a remedy for intermittent and remittent fevers, dropsy, dysentery, diseases of the kidneys and bladder," and a number of other conditions (*Jour. A. M. A.*, Oct. 28, 1916, p. 1316-1317).

Dr. Porter's Antiseptic Healing Oil was found to be essentially a solution of camphor and carbolic acid in cottonseed oil. It was claimed to be an excellent remedy for cuts, sores, old chronic ulcers, corns and bunions, and a preventive of whooping cough, diphtheria and tuberculosis.—Ballard's Horehound Syrup Compound was sold "For Consumption, Coughs and Colds" and other diseases.—Dr. Shoop's Night Cure, was claimed, promptly to cure ulceration, inflammation or congestion of the womb, leucorrhoea, painful ovaries and other female diseases. It was found to be a suppository containing zinc carbonate, zinc sulphate and boric acid in a cacao butter.—Dr. Shoop's Cough Remedy was found to be a syrup containing ammonium benzoate and probably white pine tar and gum.—Dr. Shoop's Restorative was sold for the cure of all diseases of the stomach, liver and blood and still other diseases.—Father John's Medicine was advertised as a consumption "cure". Dr. Shoop's Twenty Minute Croup Remedy was found to be a syrup containing glycerine and a small amount of salicylic acid.—Bad-Em Salz was found to consist of sodium chloride, sodium sulphate, sodium bicarbonate, and a small amount of tartaric acid. It was sold with claims suggesting that it was derived from European springs and that it dissolved gallstones and gravel in the kidneys or bladder. —Kennedy's Cal-Cura Solvent was a water-alcohol liquid containing 2.44 per cent. potassium acetate, 16.75 per cent. alcohol, 52.46 per cent. cane sugar and vegetable matter resembling mint, cardamon and boneset. From the claims which were made one would get the impression that there could be few ills that it would not cure (*Jour. A. M. A.*, Nov. 4, 1916, p. 1385-6).

Intravenous Therapy.—The technic, although not difficult, must be thoroughly mastered, or undue pain, infection, air embolism, or even death may result. Often a drug has an action different from that obtained by the usual method of administration. Deaths have resulted not only from a lack of proper technic, but also from a lack of knowledge of drugs so administered. Thus death has followed the injection of an iron preparation containing peptone, and also following intravenous injection of ether. Intravenous injections, while sometimes superior to the slower methods, are distinctly inferior when a continuous rather than a sudden action is desired as with iodids, nitrites, iron or salicylates. Intravenous injections should not be resorted to unless distinct advantages are to be secured, as when immediate action is necessary in emergencies, where the drug is not otherwise absorbed or is destroyed in the stomach. In the light of our insufficient knowledge of the action of simple drugs when administered intravenously, the injection of complex mixtures of drugs is particularly reprehensible (*Jour. A. M. A.*, Nov. 11, 1916, p. 1450).

What Ailed Him?—A druggist wants to know what ailed the patient for whom the following was prescribed: calomel 1 grain, potassium iodide 4 drachms, potassium bromide 3 drachms, potassium citrate 5 drachms, tincture of aconite 2 fluidrachms, wine of ipecac 1 fluid ounce, chloroform water to make

3 fluid ounces. Without venturing a guess regarding the patient's illness, it is suggested that if anything new was wrong with the patient after he took the medicine, the case may be diagnosed as one of misplaced confidence, either the physician's misplaced confidence in drugs or the patient's misplaced confidence in the physician (*Jour. A. M. A.*, Nov. 18, 1916, p. 1541).

THE DZURO-SCRUBY-MORDEN MALPRACTICE SUIT.

John Dzuro brought suit for $15,000 against Drs. Scruby and Morden for removing the tonsils of his son John eight years of age. It appeared that the boy was so much afflicted by enlarged tonsils that he could not do well in school and was sent home until the disease could be relieved. The mother returned with the boy and was told that it was necessary that the tonsils should be removed for his own safety and well-being; the mother consented if the boy was willing. He readily consented and the next day or in a few days he went to the Doctor's office and the tonsils were removed by Dr. Morden, school physician, with the mother's and the boy's consent. Young John at once returned to school, much improved in every respect. The teachers in this school testified that before the operation the boy was subnormal both physically and mentally; afterwards improved rapidly.

It could not be shown that the father gave his consent and thus according to a strict interpretation of the law he had a cause of action, notwithstanding no damage was done and even benefit derived. The plaintiff's attorney did not allege damage but that consent to the operation was not granted. Our attorney filed a motion for a directed verdict and Judge W. H. McHenry with that wider conception of the duties of the law, said: "Johnnie's case is typical of the new conception of our duty to childhood. Public welfare demands that the child must be safeguarded even though the wishes of the patients may have to be ignored. It is the duty of the public schools and of the public as a whole to see to it that the growing child has an opportunity to develop under the very best conditions."

A verdict was directed for the defendant. —*Journal of Iowa State Med. Soc.* Nov., 1916.

Progress in Medical Science

TUBERCULOSIS

The Chairman of the Connecticut State Tuberculosis Commission, Dr. S. J. Maher, in a paper entitled "Connecticut, a Student of Tuberculosis" (Med. Record, Aug. 5, 1916) presents some very interesting matter.

The paper is a brief summary of some of the original work done in the various State Sanatoria. He says, "Dr. Lynch also presented a study of bacterial findings in the mouths of fifty consumptives in the later stages of the disease. In only four of the cases could he demonstrate tubercle bacilli in the wipings or washings of the teeth, gums, tongue, tonsils or pharynx. These four cases were all in extremis and were all dead within ten days of the examination." He speaks of Dr. Dinnan's investigation of blood pressure before, during, and after hemorrhage in cases of pulmonary tuberculosis. From 17,000 readings he finds "(1) That hemorrhage from tuberculous lungs is never due to high blood pressure; but (2) that the bleeding consumptives have lower blood pressure than the average consumptive, and (3) that blood pressure for the hemorrhage case, just before the hemorrhage, is lower than the normal of that case; that (4) the blood pressure rises during the hemorrhage, and (5) that the blood pressure remains high for a short time after the hemorrhage and then slowly falls to what it was before the hemorrhage."

His most interesting allusion is to Dr. Stockwell's important work in differential diagnosis. Cases not infrequently appear in a sanatorium which show the usual signs of consolidation or softening or even cavitation in the lungs and yet show no T. B. in the sputum and do not react to the tuberculin test or give confusing or unsatisfactory reactions. Guinea pig inoculation may be negative. To quote from Dr. Maher's paper, "He (Dr. Stockwell) has already demonstrated twelve cases of streptothricosis, and in nine of the twelve there were no tubercle bacilli. All of these cases were severe progressive cases; they were all hemorrhage cases. The little granules of the fungus were shown at the conferences in the sputum of all twelve cases. The sterptothrix was displayed in pure culture on glycerine

broth and glycerine-agar. Under the microscope hanging drops of the live organism were shown, as well as stained smears of the pure cultures, and of streptothrical sputum. Then the twelve patients were exhibited and examined and their treatment explained. Their treatment consisted in the administration of the iodides up to toleration, usually 30 or 40 drops of a saturated solution three times a day. One patient received 70 grains three times a day. Remember these were hemorrhage cases, and yet they received these heroic doses of the iodides. Now as to results: Two died; one left without treatment; one remains unimproved; six have gone home without any symptoms left of their former serious lung trouble, and one has gone home improved but with some activity left in the lung lesion. One remains at the sanatorium slightly improved. And all these cases were doing badly when Dr. Stockwell began his intensive study of them.'' He then relates the following case as an example. A husky man, middle age, had attack of pleurisy, Sept. 1913. Several ribs resected in Nov., 1913. Sinus persisted. In March, 1914, left knee began to swell. At a very good hospital various measures, including resection, were tried to cure the supposedly tuberculous knee. No benefit resulted and leg was amputated above the knee in Sept., 1914. In Jan., 1915, abscess developed in right hip. He was then discharged from the hospital as beyond surgical relief and sent to the Sanatorium for his supposed tuberculosis of the lungs and bones. At the Sanatorium Dr. Stockwell found no T. B. in the sputum but did find streptothrical granules in the sputum and in the pus from the sinuses in the hip and chest. The iodides have stopped the progress of the disease. The streptothrix cannot now be found. Hemorrhages have ceased and the general health and strength are improving and weight is being gained. There is every promise of his recovery but he has lost his leg.

A review of the literature of 1915 shows very little addition to our knowledge of bacterio-immuno therapy. Tuberculin remains a useful adjunct but not a cure. Maragliano and Marmoreck still advise the use of serums from immunized animals as a means of producing passive immunity in the patient. Deyke and Much recommend the use of antigens made from the various elements of the T. B. according as one or another antibody is lacking in the patient's blood.

Copper, especially the lecethin compounds, is still advocated by some, but the latest judgment is that its use is not justified. Some benefit has been reported from the use of gold compounds in the treatment of tuberculous laryngitis.

Heliotherapy is being employed more and more. Rollier reported 1,129 cases of surgical tuberculosis treated at Leysin in the Swiss Alps. 945 were cured and 112 improved. Good results have been obtained in England and Denmark as well as in Colorado, Perrysburg, N. Y. and Sea Breeze, Coney Island. Pottenger does not think highly of this treatmen for pulmonary cases.

Cures and improvements have been reported from the use of the Roentgen ray. Radium rays have been shown to decrease the virulence of T. B.

Sach's statistics show the results of artificial pneumothorax after extensive trial. He includes 1,145 cases and shows 31.7% of durable improvement including 12% of apparent cures. It offers to certain advanced cases a much better chance of recovery or improvement than could be offered before.

''Therapeutic Measures for Tuberculosis Suggested in 1915.''—E. N. Packard, Jr., *Interstate Medical Jr.*, March, 1916.

Dr. Packard also reports a case of extensive fatal gangrene of the compressed lung following artificial pneumothorax. *Am. Jr. Med. Sciences*, June, 1916.

This is the first case of the kind reported so that we must consider this accident as rare. Although it adds another danger to the use of artificial pneumothorax, that treatment will remain one of our most useful resources in certain cases.

According to Morton the period of six weeks usually necessary to secure a diagnosis of tuberculosis through animal inoculation, may be reduced to eight or ten days by exposing the guinea pig to the X-ray. The X-ray may be applied either before or after the inoculation and so reduces the resistance of the guinea pig, that the inoculated bacilli quickly develop typical tuberculous lesions.

Rapid Method for Diagnosis of Renal Tuberculosis by Use of Roentgenized Guinea Pig.

J. J. Morton, Jr., *Experimental Med.*, Oct., 1916.

Van Es & Shalk, in an article entitled "The Fate of the Mammalian Tubercle Bacillus in Sparrows and Chickens," show that these birds are able to harbour mammalian tubercle bacilli for long periods without impairing their virulence. The birds were frequently emaciated. The flesh of fowls may therefore be at times a source of tuberculous infection in human beings.

Jr. Infectious Diseases, Chicago, Oct., 1916.

H. S. G.

OBSTETRICS.

H. E. Coe, American J. of S., discusses the curette. He considers it easy to use but difficult to know when it should be applied. The sharp curette is the only effective one and the manner in which it is used is an index of the skill of the operator. The man of careless surgical habits curettes whenever he dilates the cervix for stenosis or anteflexion and as a preliminary step to trachelorrhaphy. In nearly every form of uterine disease the curette seems to be considered by many as a specific.

The idea that uterine hemorrhage, purulent or non-purulent discharge, endometritis is an indication for the use of the curette is based on the old idea that these conditions have a mechanical causation.

The new axiom is, when in doubt **do not** curette. Curette only when there is a definite reason for so doing. In the majority of cases where the curette is indicated all that may be accomplished in relief of the condition will be secured by curettment of the cervix alone.

Bleeding from the uterus in a woman past the menopause requires curettage. Examine the curettings for carcinoma.

Leucorrheal discharge comes from the cervix. Local treatment should be directed to the cervix—not to the uterus in this condition.

The Gynecologist of today is learning more and more that a great majority of the conditions that give symptoms associated with the generative organs of the female, and characterized by local manifestations of bleeding, discharge, irregular menses, etc., are best treated by systematic rather than local measures. The role of the internal secretions in this condition is a large one. Thyroid, pituitary extract, corpus luteum, etc., have more cures to their credit than the curette or the tampon.

R. E. S.

Further Reports from the American Proctologic Society

A BRIEF REPORT OF TWO CASES OF ANAL HERPES ZOSTER

By Lewis H. Adler, Jr., Philadelphia, Pa.

Dr. Lewis H. Adler, Jr., stated that cutaneous lesions about the anal region are by no means unusual, but that the frequency of their occurrence is much less than one might reasonably expect from the function of the part. — its more or less constant contact with germ laden feces; the frequent congestion to which it is subjected and the attrition of the nates and adjacent structures induced by walking, etc.

That in this connection a very unusual condition, so far as his experience went, was Anal Herpes Zoster, of which he had only seen two cases in his practice, both being in young women, one of whom thought she had contracted some venereal trouble from using towels in a public bathing establishment.

That in both instances, the eruption was preceded for several days by a mild febrile disturbance, with burning pains in the anal region; at times the sensations were neuralgic in character. That in both patients, the lesions were confined to a definite area, affecting only one side of the anal cutaneous surface; that the eruption in neither case was very extensive or numerous and there was no history of previous attacks or of similar trouble elsewhere.

That the vesicles in both cases followed the usual course of Herpes Zoster occurring elsewhere,—the liquid they contained was clear, translucent serum, at first; which gradually became cloudy and later puriform. That they never evinced any tendency to rupture and in the course of ten days or two weeks, they gradually dried to thin yellowish or brownish crusts, which shortly dropped off,—after which there was left a reddish spot, covered with the epidermis; and that these spots were very slow in disappearing.

That the local discomfort in both cases was not lessened on the appearance of the eruption: but more or less burning was experienced, until the eruption had practically disappeared and that in one case it continued for several weeks afterward.

That the pain was so severe in one case that the family physician found it necessary on several occasions to prescribe an anodyne.

That the treatment in each case was similar, — internally Sol Fowler, six drops was prescribed, locally, the parts were cleansed with two per cent. creoline solution and freely dusted over with borated talcum powder. Over this a wad of absorbent cotton was applied and kept in place by an appropriate bandage.

ABSTRACT

Dr. William H. Kiger, Los Angeles, California, reports six cases of Pruritis Ani treated by the vaccine method as suggested by Murray. Cultures were taken from the skin at the anal junction. In every instances, Streptococcus Haemolyticus found. No local application of any kind was used. The results are attributed to Vaccine treatment alone. He discredits the use of stock vaccines, and suggests the use of Autogenous Vaccine only. Considers the focal infection as a prime factor in an etiologic way. Also he reports three cases evidently due to an infection from abscesses at the roots of teeth. He says that all of the cases reported had Pyorrhea, and suggests a thorough examination of the teeth, together with an X-Ray picture of the jaw. He believes that a reinfection often takes place.

ANO-RECTAL INJURIES

Samuel Goodwin Gaut, M.D., LL. D.

The author stated that while the rectum is protected by the buttocks, and bony structures, it is frequently injured by external trauma, expulsion of hardened feces, and foreign bodies, swallowed or introduced through the anus, such wounds being contused, lacerated, incised or perforated.

Laceration of one or all of the rectal coats, results from careless examinations, introduction of imperfect syringe nozzles, bougies, proctoscopes, or other instruments.

Perforating wounds are caused by bullets, knife thrusts, and pointed objects that have been swallowed, or introduced into the rectum, except when due to specific ulcers or cancer.

Recently many pneumatic rectal ruptures, the result of compressed air introduced through the anus, in a spirit of fun, have been reported.

The injection of carbolic acid into hemorrhoids is responsible for extensive ano-rectal injuries.

Symptoms:—The chief manifestations of superficial ano-rectal injuries, are bleeding, sphincteralgia, frequent micturition, and painful defecation; symptoms that are exaggerated, when wounds are extensive.

Infected wounds are characterized by a chill, temperature, throbbing pain, swelling, and a thick yellow discharge.

In extensive injuries of the upper rectum, hemorrhage is profuse. There is shock, the patient collapses, and soon exhibits symptoms of peritonitis, when the peritoneum is involved.

Diagnosis:—The diagnosis of ano-rectal injuries is easy, when the nature of the accident has been learned, the degree of hemorrhage, bruising and swelling have been noted, and the buttocks, anus, and rectum have been inspected, and digitally and proctoscopically examined.

Treatment:—Minor injuries take care of themselves, while extensive injuries may require simple or complicated treatment.

Incised wounds are sutured, under aseptic conditions.

Contused, lacerated and pneumatic injuries are drained at one or more points, following irrigation, and the removal of ragged edges and necrotic tissue. Subsequently they are treated by drainage and topical applications, as fistula wounds.

Injuries of the bladder and urethra are immediately closed when feasible, but if not, the bladder is drained, and the wounds here and in the rectum are permitted to heal by granulation.

Small recto-vesical rents are sutured, but where the rectum or Sigmoid is extensively injured, the bowel is resected, or an artificial anus is established.

Recto-vaginal tears are repaired by suturing the vaginal before the rectal side of the wound is closed.

THE CONSIDERATION OF RECTAL AND COLONIC DISEASE IN LIFE INSURANCE EXAMINATIONS

By Alfred J. Zobel, M. D.

Fellow of the American College of Surgeons; Chief of Department of Rectal Surgery, San Francisco Polyclinic and Post Graduate School, San Francisco, California.

All important data concerning the vital organs is obtained by a medical life insurance examiner by direct examination and by precise methods. On the other hand life insurance companies evidently do not attach much importance to the condition of the rectum and colon — not to mention the rest of the alimentary canal — for they seem willing to assume that these organs are free from disease solely from the favorable answers given by the applicant to routine printed questions asked by the examiner. That this is a fallacy, inasmuch as it paves the way to the acceptance of poor risks, and occasionally to the rejection of a good one, is shown in this paper.

Applicants almost invariably deny having or having had rectal or colonic disease. The writer thinks that perhaps the main reason for this general denial is the ease with which these affections can be concealed from the examiner, unless he makes an examination.

The average individual knows little about his ano-rectal region, and unless there is severe pain or itching, alarming bleeding, or annoying dysentery, he thinks it of little importance and unworthy the attention of either himself or the examiner. The rectal surgeon often sees individuals who look and feel in the best of health (outside of "a little attack of piles"), yet who are found victims of well advanced malignant disease of the rectum or colon. Unless a rectal examination be made such a person could easily pass a life insurance examination.

The examiner should look out for those little fistulous tracts which cause no pain and discharge but little secretion, as they are frequently the primary manifestations of tuberculosis, and may appear in those who are otherwise apparently healthy. A severe stricture of the rectum may be present in a man outwardly perfectly healthy and insurable. If no history of his condition was volunteered such a person could pass an examination unless the rectum was examined.

If a history of hemorrhoids is secured, or if they are discovered on examination, it should not be forgotten that although their existence does not constitute a good cause for rejection, they often accompany liver, spinal cord, genito-urinary and uterine disease.

In cases where a suspicious anemia is found to be due solely to bleeding from hemorrhoids, these individuals could be conserved to the life insurance business if put in the way of regaining their health so as to become insurable.

If a rectal examination is made the condition of the genito-urinary organs in the male can be investigated at the same time, while in the female accurate information can be obtained about their pelvic organs without subjecting them to a vaginal examination. At the present time insurance companies do not demand an examination of the female generative organs but accept their answers to the questions whether they ever had any uterine disorder, and if pregnancy now exists.

In conclusion, the suggestion is offered that medical examiners should lay more stress upon the questions regarding the condition of the bowel and rectum. They should enquire carefully whether there is or has ever been a sanguineous, purulent or mucous discharge from the rectum. A history of chronic constipation or of diarrhoea should be considered worthy of further investigation. A rectal examination, both digital and instrumental, should follow if there is need therefor, or whenever there is the slightest suspicion that by it something may be revealed.

That medical examiner is the most "efficient" who not only secures his company from poor risks but also saves it business which otherwise would be lost. The utilization of rectal examination helps attain "efficiency."

ACUTE ANGULATION AND FLEXURE OF THE SIGMOID A CAUSATIVE FACTOR IN EPILEPSY

REPORT OF NINE NEW CASES WITH FOUR RECOVERIES

By W. H. Axtell, M. D., A. M., Bellingham, Washington

Review:—In December, 1910, I published my first list of thirty-one cases — eight private and twenty-three Asylum cases; in August, 1911, a further report on ten private cases with three recoveries — this included three additional Asylum and two private cases, making in all thirty-six cases. The three reported cured have remained so for a period now of over four years. One additional case (No. 4) of the original list of ten private cases has had no return of the convulsions since ceasing treating two years ago, treatment seemed at the time to increase the irritation as reported.

Additional Cases:—Since last report I have had nine additional cases with four of them remaining free from seizures for from one year to two and a half years, making in all forty-five cases reported with eight recoveries to date.

Observations:—From my observations I am convinced that those who acquire epilepsy after the fifteenth year are more amenable to successful treatment than when commencing earlier in life. In my judgment surgery can give but little relief except where there is a definite history of inflammatory adhesions holding the angulations and flexures.— in fact the condition of fecal stasis precludes surgery of the colon until the condition is first relieved, which when so relieved a prime factor in the production of the trouble is eliminated. A new and undescribed cause of the intestinal ptosis which is so generally present in these cases is the separation of the Recti Muscles, which are so essential to a thorough evacuation of the colon and for the support of the abdominal organs.

The essential failure of treatment of these conditions lies in the fact that so few recognize the true condition, and, if the condition is recognized, there is not sufficient persistence in relieving the condition, or an ignorance as to the amount of material the colon holds and as to when it is well emptied, that is the reason so many fail and as a result mutilating surgery is resorted to without getting results commensurate to the gravity of the surgery resorted to, — the first intimation of the true condition is found upon opening the abdomen,— then details are carried out which should have been used in the first instance, then surgery would be unnecessary.

Excerpts from Other Journals

SHOULD THERE BE A CHAIR OF MEDICAL ETHICS?

Whatever may have been the disadvantages of the old preceptor system of medical instruction, it had many merits. One of these was the opportunity offered to the student of becoming inbued with the ethics of his profession. This was no unimportant part of medical training. The practice of medicine is above all altruistic; in all of his dealings the doctor is required to put himself last — to serve cheerfully where there is no reward, frequently ingratitude, and sometimes censure; to aid in disseminating information and advice which cut at the very root of his living; and to make the Golden Rule his motto in a world which is run on an entirely different system.

It is inevitable that among a body of men who perform the same service for the same community and yet who must not compete or advertise, there should arise a complicated ethical system. The principles of this the practitioner soon comprehends, but always there arise situations for which there seems to be no exact precedent; one doctor's idea of the right thing to do differs from another's and inevitably someone is offended. If this appears to be a difficulty to the seasoned practitioner, it is much more of a problem to the recent graduate who has had no definite instruction in such matters and may not have been fortunate enough to be thrown in con-

tact with older practitioners who were able and willing to enlighten him. At first, he has only a certain amount of such information acquired in medical school, incidentally as it were.

Across the sea the General Medical Council of Great Britain has passed a resolution providing that in a medical curriculum, under medical jurisprudence or public health, or elsewhere, instruction shall be given as to the public duties of physicians and the recognized rules of medical ethics. This is especially appropriate just now in Great Britain on account of the complications arising from the war, which will be increased when peace is declared and the military surgeons return to their private practice, but it would have been a laudable resolution at any time.

The occupant of a chair of medical ethics obviously could not be dogmatic nor could he deal to any great extent in specific instances. His whole duty would be to lay down the basic principles of ethics, illustrating them with examples. He would also take under his care the instruction of the student in his future duties toward the community as a whole, his responsibility for the accuracy of vital statistics, for the safeguarding of society from contagious diseases, impressing on him not only the necessity of obeying regulations to avoid trouble with the health officer, but the wider conception of his duty toward society. The future practitioner should be taught, for instance, that it is better to act on his tentative diagnosis of scarlatina and exercise the necessary precautions to protect the community even if he thereby alienates the family. When we have our young physicians turned out from the schools inbued with such ideals of their profession, then indeed we shall feel that we are on the way toward our highest possibilities as an altruistic body of workers for humanity.—*New York Medical Journal.*

Mrs. Lafferty:—Tin stitches did th' doctor have to take in me ould man!

Mrs. O'Hara:—Tin, was it, only tin? Sure, when th' doctor seen me poor husban' carried fr' th' wreck on th' railroad, he sez, sez he: "Do there be no wan here wid such a t'ing as a sewing machine?"—*N. Y. Globe.*

Book Review

AMERICAN PUBLIC HEALTH PROTECTION.

By Henry Bixby Hemmenway, A. M., M. D., formerly Health Officer of Kalamazoo.

Cloth, 271 pages, price $1.25.

Bobbs-Merrill Co., Indianapolis, Publishers.

The author takes up historically the development of Health Agencies, Municipal, State and National. He considers those most efficient that are not hampered by too many laws, advises greater centralization of authority with a practical Sanitarian in the Cabinet.

Dr. Hemmenway believes that Health Commissioners should be full time, well paid men, educated in special schools or departments of Universities as Sanitarians rather than as Physicians.

Boards of Health are not in favor with this author as he prefers the one man exeeutive, free from all polities and free from possibility of curtailment of income from private practice.

The reading of his Chapter VII and VIII, Medical Inspection of Schools and Organization of Health Boards repays one for the time spent on the whole volume.

In one sentence Dr. Hemmenway gives the "raison d'etre" of his book: "Publie Health is a new profession as well as a new science."

On the whole American Public Health Protection is a little book every person interested in Public Health (and who is not?) can profitably read.

J. M. H.

From the County Societies

RUTLAND COUNTY.

Under the auspices of the Rutland Clinical Club "Tuberculosis Day" was observed in Rutland on December 6th. Sixty-eight persons from various parts of the county having free examination of the lungs at the Rutland Hospital and a large number consulting their family physicians in the afternoon. During the morning eighteen doctors gave a portion of their time to the work.

While no treatment was suggested, the patients who required attention were so notified. One case of tuberculosis, far advanced, which had not been recognized was found. There were several cases of incipient tuberculosis. Other findings were cases of pleurisy, bronchitis, diseased tonsils, adenoids and deformed chests.

There were many children at the examination at the hospital as provision had been made that they might leave school and not be marked absent while at the hospital. Teachers co-operated by sending children whom they believed in need of examination.

Drs. James M. Hamilton, Geo. G. Marshall and S. W. Hammond were the committee in charge.

Dr. Chas. F. Fleming of West Rutland and Dr. Clifton H. Smith of West Rupert have been elected to membership in the Rutland County Medical and Surgical Society.

Invitations have been issued for the opening of the doctors' room at the Rutland Hospital on Tuesday evening December Nineteenth. Physicians of the county and adjacent towns will be guests of the Rutland Clinical Club. Six reels of very interesting and instructive film taken at the Base Hospitals in France will be shown. These pictures portray the various phases of war surgery showing operations by famous surgeons, etc. A buffet lunch will be served after the motion picture exhibit. The doctors' room, which was given by the hospital, is used as a meeting place for the local and county medical societies and was furnished by Rutland physicians. It is well equipped for either lantern slide or motion picture exhibitions.

The committee in charge of the entertainment for the opening consists of Drs. W. W. Townsend, C. S. Caverly and F. H. Gebhardt.

At the January meeting of the Rutland County Medical and Surgical Society Dr. Frederic J. Russell, Superintendent of the State School at Brandon, will give an address on "Some Problems of the Feeble-Minded."

F. H. G.

LAKE VIEW SANITARIUM, BURLINGTON CHANGES HANDS.

Dr. Edgar O. Crossman, formerly of Lisbon, N. H. has recently become owner and superintendent of Lake View Sanitarium, Burlington.

Dr. Crossman graduated from the Medical department of the University of Vermont in 1887. He spent 7 years on the staff of a Psychopathic Sanitarium and was president of the board of trustees of the New Hampshire State Hospital and last year was president of the New Hampshire Medical Society.

News Notes

Mr. and Mrs. E. A. Skeels of St. Albans recently received a cablegram from their son, Dr. A. A. Skeels, formerly of that city, telling of his safe arrival at Salonika. Dr. Skeels, who a few months ago enlisted for his second year in the Royal Army Medical Corps, was in camp with the expeditionary forces last year but this year he is in a stationary hospital, one of the seven large hospitals, with a capacity of seven thousand beds, erected by the British government. He is serving under the British government but in his work has the care of the Serbians. Dr. Skeels was with his parents in St. Albans a few weeks ago, leaving there September 3rd and sailing October 20th for London, where he remained until early in November.

Dr. J. S. King has sold his practice in Isle La Motte to his son and located in the town of Georgia.

Dr. G. B. Maurice of Waterville has been taken to the Mary Fletcher Hospital in a critical condition.

Dr. and Mrs. E. S. Towne of Burlington celebrated the tenth anniversary of their marriage, October 25th, with a dinner party for a few friends.

Dr. P. E. McSweeney of Burlington attended the Clinical Congress of the Surgeons of North America held in Philadelphia last month.

Dr. C. A. Cramton of St. Johnsbury is in New York for a month studying and attending clinics at the Manhattan Eye and Ear Hospital.

Dr. George T. Gale of West Townshend has gone on a several weeks' visit with relatives in Chicago, Indianapolis, Ind., Peoria, Ill., and other points farther west.

Dr. P. E. McSweeney of Burlington attended the Clinical Congress of the Surgeons of North America in Philadelphia.

A committee of citizens that made the arrangements for a Community Hallowe'en celebration in Saxtons River, the first ever held in that section of the State, was headed by Dr. W. D. Bowen.

Dr. C. K. Johnson of Burlington attended a joint meeting of the New England, the New York and the Philadelphia Pediatric societies, in Boston this month.

Dr. C. W. Woods, a practicing physician in New York city for ten years, has opened offices in Montpelier. Dr. Woods is a native of St. Johnsbury.

Dr. R. A. Richardson, who has been with Dr. J. P. Gifford in Randolph the past year, has gone to his home in Franklin, N. H., for a stay of a month before taking up practice elsewhere.

Dr. H. S. Herrick has sold his practice and house in Richford to Dr. G. S. Clark, formerly of Montgomery Center, who will take possession December 1st. Dr. Herrick expects to remain in Richford.

Drs. B. H. Stone and C. F. Dalton of Burlington and H. D. Holton of Brattleboro attended the annual meeting of the American Public Health Association in Cincinnati, Ohio, last month.

Dr. J. H. Gaines of Newport celebrated his birthday anniversary October 12 by giving a dinner party to about thirty of his friends. He was presented a gold ring. The evening was spent playing cards.

Dr. Watson L. Wasson, formerly Assistant Superintendent of the Vermont State Hospital for the Insane, has been appointed Superintendent vice Dr. Don W. Grout resigned.

R. M. T.
BOSTON

Vermont Medicine

Owned and Published by the Vermont State Medical Society

VERMONT STATE MEDICAL SOCIETY A.D.1813 NON PRO NOBIS LABORAMUS

Issued Monthly at Rutland, Vermont

VOL. I. No. 1. JANUARY, 1916. SUBSCRIPTION PRICE $1.00 PER ANNUM

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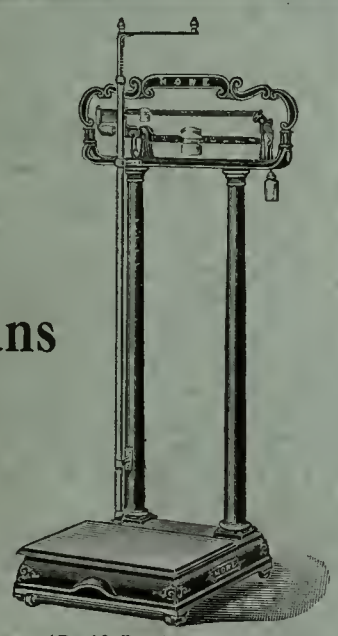

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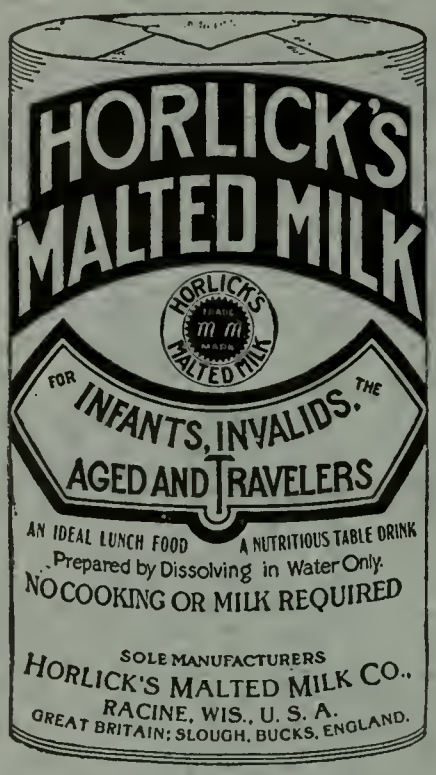

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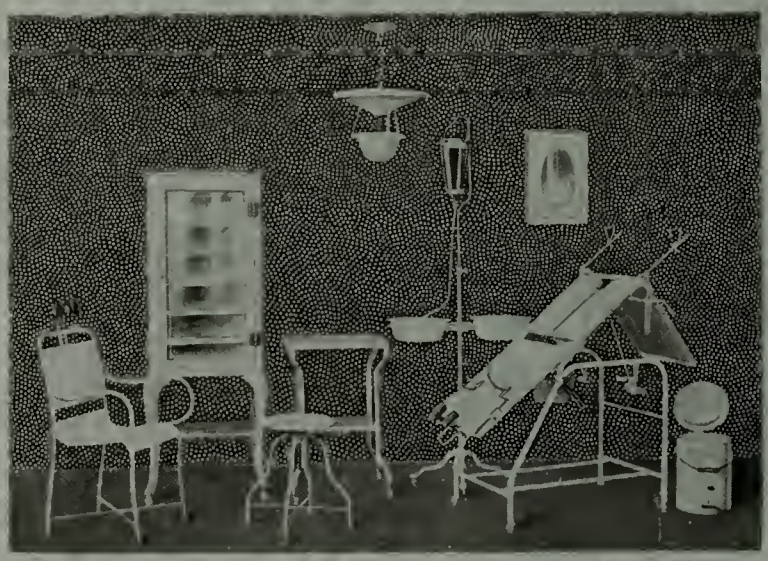

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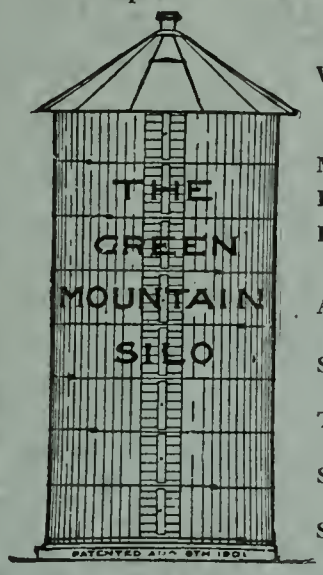

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VOL. I. No. 3. MARCH, 1916. SUBSCRIPTION PRICE $1.00 PER ANNUM

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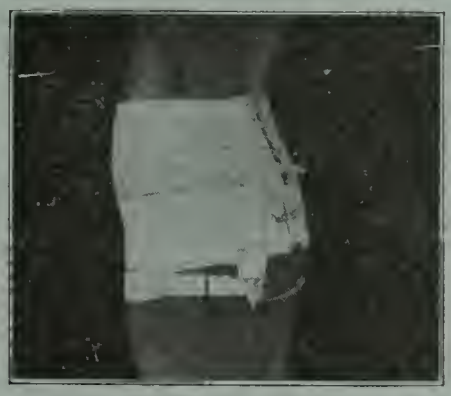

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VOL. I. No. 4. APRIL, 1916. SUBSCRIPTION PRICE $1.00 PER ANNUM

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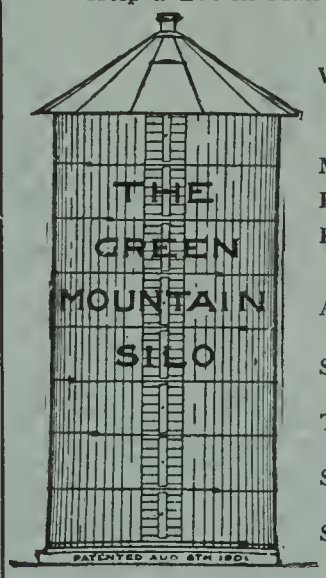

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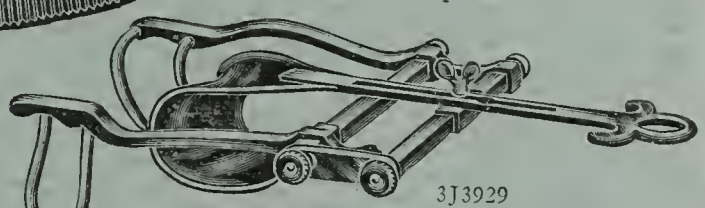

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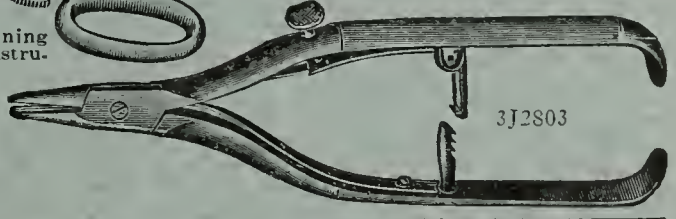

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Issued Monthly at Rutland, Vermont

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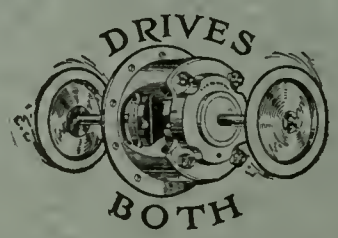

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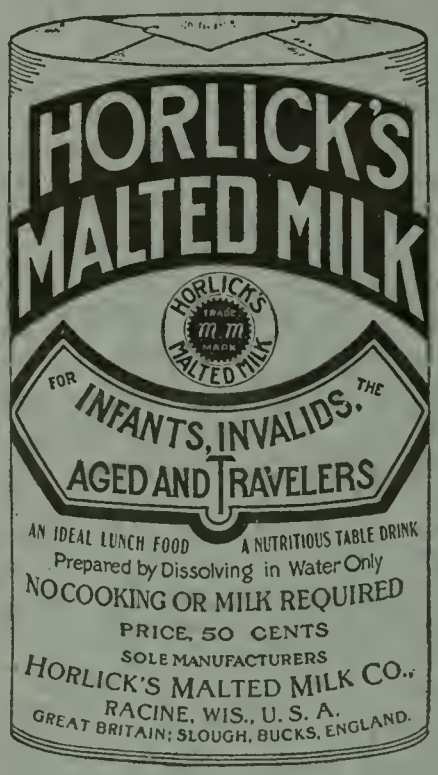

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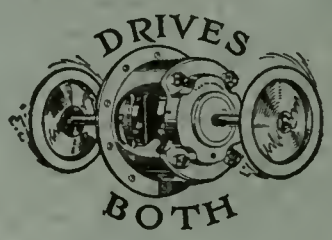

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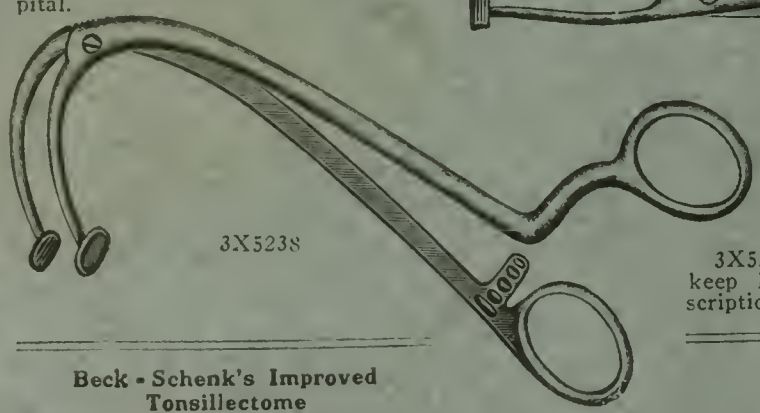

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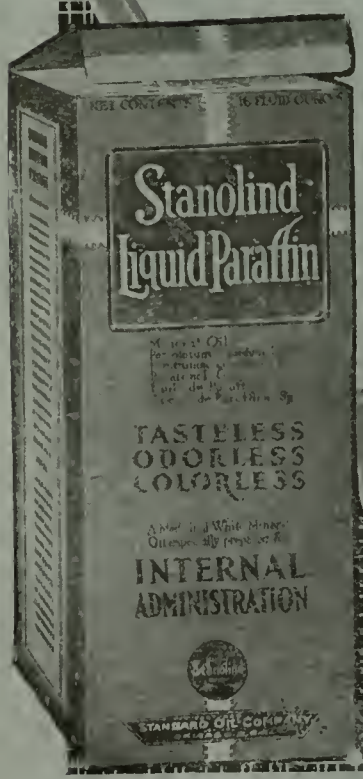

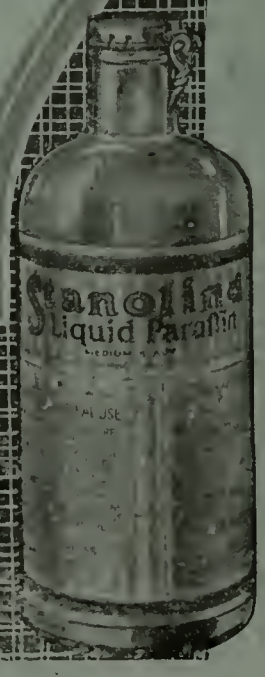

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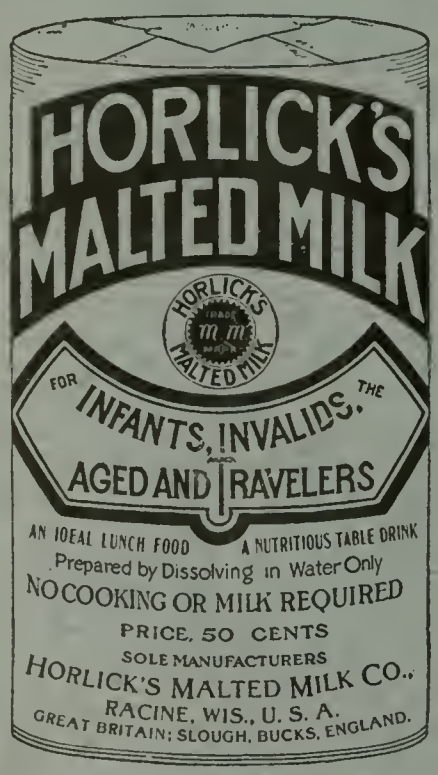

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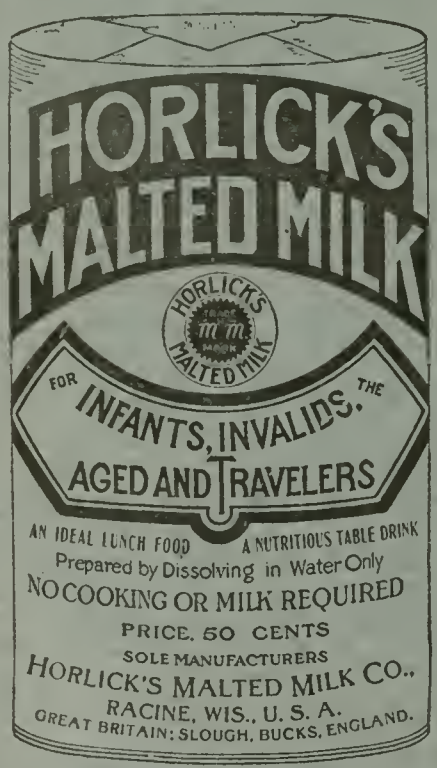

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